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SPRINGFIELD, VA 22161

19971229 087

Central Eurasia

Military Affairs

JPRS-UMA-93-021

CONTENTS

23 June 1993

CIS/RUSSIAN MILITARY ISSUES

CIS: POLICY

Budget Chief Col-Gen Vorobyev on Required Insurance for Servicemen [KRASNAYA ZVEZDA 28 May]	1
Maj-Gen Ivanov on Course of Military Reforms [FEDERATSIYA No 54, May]	2

CIS: GROUND TROOPS

End of Division Tactical Exercises [VOYENNY VESTNIK No 2, Feb]	4
Ground Forces Recruiting Ads Begun	7
Ground Force Ads Described [KRASNAYA ZVEZDA 18 May]	7
Full-Page Ad on Ground Force Benefits, Recruitment Information [KRASNAYA ZVEZDA 18 May]	7
2S7M 204-mm Self-Propelled Gun Described [KRASNAYA ZVEZDA 25 May]	9

CIS: AIR, AIR DEFENSE FORCES

Designer of S-300V's Radar Interviewed [VESTNIK PROTIVOVOZDUSHNOY OBORONY No 2]	10
Tactical Missions, Requirements of Missile-Space Defense [VESTNIK PROTIVOVOZDUSHNOY OBORONY No 2]	14
Future Requirements of Russian Air Defense [VESTNIK PROTIVOVOZDUSHNOY OBORONY No 2]	15
KAB-500Kr, KAB-500L Guided Aerial Bombs Described [KRASNAYA ZVEZDA 28 May]	18

CIS: NAVAL FORCES

Combat Training Chief Evaluates Northern Fleet [ARMIYA No 1, Jan]	19
Fire To Support Amphibious Landing [VOYENNY VESTNIK No 2, Feb]	22
'Burun', 'Samum', 'Molniya' Small Missile Boats [KRASNAYA ZVEZDA 14 May]	26

CIS: REAR SERVICES, SUPPORT ISSUES

Chief of CBR Troops Interviewed [VOYENNY VESTNIK No 2, Feb]	27
From Ecology Directorate [VOYENNY VESTNIK No 2, Feb]	30

STATE AND LOCAL MILITARY FORCES

UKRAINE

Morozov on Building Up of Forces, Status of Nuclear, Other Issues [NARODNA ARMIYA 17 Apr]	32
Progress Forming National Army Assessed [ROSSIYA No 24, 9-15 Jun]	37

CENTRAL ASIAN STATES

Kazakhstan: Law on Universal Military Obligation [VECHERNYAYA ALMA-ATA 10 Mar]	38
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GENERAL ISSUES

DOCTRINAL ISSUES

Kokoshin Interviewed on Military Doctrine [NEZAVISIMAYA GAZETA 3 Jun] 51

MILITARY CONFLICT, FOREIGN MILITARY AFFAIRS

Completion of U.S. B-2A Flight Testing Noted
[VESTNIK PROTIVOVOZDUSHNOY OBORONY No 2] 55

SECURITY SERVICES

Details on 29, 30 May Attacks on Russian Border Guards in Tajikistan
[KRASNAYA ZVEZDA 1 Jun] 55

CIS: POLICY

Budget Chief Col-Gen Vorobyev on Required Insurance for Servicemen

*93UM0582A Moscow KRSNAYA ZVEZDA in Russian
28 May 93 p 2*

[Interview with Col-Gen Vasilii Vorobyev, chief of the Main Military Budget and Financing Directorate of the Ministry of Defense of the Russian Federation, by Ivan Ivanyuk; place and date not given: "You Are Reliably Insured"]

[Text] Another step has been taken in implementing the Russian Federation Law on Status of Servicemen. The Russian Federation minister of defense, General of the Army Pavel Grachev, signed the order on mandatory personal state insurance and the procedure for payment of lump-sum benefits to servicemen, citizens called up for active duty military training, and their family members. Together with the special instructions, it is being sent out to all military units, institutions, military educational institutions, organizations, enterprises of the Armed Forces of Russia, and rayon military commissariats.

The editorial office asked the chief of the Main Military Budget and Financing Directorate of the Russian Federation Ministry of Defense, Colonel-General Vasilii Vorobyev, to comment on the basic provisions of the new documents.

[Vorobyev] Our proposals on mandatory state insurance of servicemen and citizens called up for active duty military training are supported by the government of the Russian Federation in the adopted decree. This decree provides for payment of the corresponding insurance sum if there is an insurance claim after 1 March 1993. Thus, in the event of the death of the insured, his family is paid a sum in the amount of 25 times his base pay and allowances for each family member; if the serviceman was performing service under the draft, his family is paid a sum of 25 times the monthly minimum wage.

In the event of establishing the disability of an insured serviceman during performance of duty or within one year following discharge from service, as a result of a wound, trauma, injury, or illness that occurred during performance of duty, an insurance sum will be paid in the amount: for group I disability—75 times, for group II—50 times, and for group III—25 times the base pay and allowances (times the monthly minimum wage for compulsory service personnel).

If the insured receives a serious wound (contusion, trauma, injury) during performance of duty, he will be paid 10 times the base pay and allowances (monthly minimum wage); if he receives a slight wound, he will be paid five times the base pay and allowances.

If draftees are discharged from the armed forces due to the inability to perform service for health reasons, the insurance sum in such cases is five times the monthly minimum wage.

I especially want to emphasize that the order requires commanders and chiefs of all levels to take additional steps aimed at improving educational work with subordinates, strengthening military discipline and law and order in the Army and Navy, and preventing the death and damage to the health of servicemen and citizens called up for active duty military training. That is, the Ministry of Defense, demonstrating concern about the social protection of servicemen, in this case is not freeing itself of the responsibility for maintaining such order, when in army conditions a citizen of Russia may feel confident, aware that his dignity and health are protected by the state.

[Ivanyuk] Tell us, to what servicemen does mandatory insurance extend?

[Vorobyev] Officers, warrant officers, extended-service personnel, women performing military service in the enlisted and noncommissioned officer ranks, servicemen performing military service under contract, and citizens called up for active duty military training are subject to mandatory state personal insurance.

Servicemen are insured against accidents at the expense of the state. And the insurance remains in force the entire time they are performing service and also for one year after completion of service in the event of death or disability as a result of health problems that occurred while performing service.

[Ivanyuk] What is considered the start of service: the date call-up papers are presented, arrival at the military commissariat, or arrival at the military unit?

[Vorobyev] The date a person is placed on the rolls of the military unit is considered the start of military service, and the completion of military service is considered the date the term of service expires. The terms, norms, and procedure of insurance security here apply to servicemen regardless of the place they are performing service.

This procedure is also in effect with respect to servicemen of the armed forces of CIS states that have signed the agreement on this matter who are discharged from military service and reside on the territory of the Russian Federation.

[Ivanyuk] Let us assume that a grenade explodes in a soldier's hands, which unfortunately happens. But it is one thing when this happens at exercises, and quite another when it happens during the theft of weapons and ammunition. Who determines and how is it determined whether or not this is an insured event or a criminal incident with all ensuing consequences?

[Vorobyev] First, I will explain what are considered insured events. These are the death of the insured during performance of duty or damage to his health—wound,

contusion, or trauma of a varying degree of severity. The death or disability of the insured prior to the expiration of one year after completion of military service as a result of damage to health during the performance of service is also an insured event. However, these are not insured events if they occur during the commission of illegal actions or as a result of alcoholic, narcotic, or toxic intoxication, or self-mutilation by the insured.

The illegality of actions by the insured is established based on documents of the court or appropriate bodies conducting an investigation of this incident. Such harsh norms are explained by the fact that in the event of insured incidents, considerable sums are paid and, in addition to purely financial and legal norms, moral norms also enter into force. Indeed, are a wound received in the line of duty and an injury received while intoxicated or in a fight really comparable?

[Ivanyuk] The published Russian Federation Law on Status of Servicemen talks about payment of a lump-sum benefit in the event of a serviceman's death or wound. Can you tell us about this benefit in more detail?

[Vorobyev] Yes, indeed. The Russian Federation Law on Status of Servicemen provides additional social guarantees to the families of servicemen who have died in the line of duty and to servicemen themselves who have a service-related injury or illness that precludes them from further performing military service.

These guarantees are expressed in the payment, in addition to the insurance sums, to family members of servicemen who have died in the line of duty or have died within one year of the date of discharge from service as a result of a service-related injury (wound, trauma, contusion) or illness in equal shares of the lump-sum benefit based on 120 times the base pay and allowances (minimum monthly wage) for the family.

If a serviceman has a service-related wound, contusion, trauma, or illness that precludes the possibility of further performance of military service, payment of a lump-sum benefit in the amount of 60 times the base pay is provided.

[Ivanyuk] That is, these benefits are paid only for accidents with servicemen performing military duties. Therefore, a question arises: What is meant by performance of military duties?

[Vorobyev] The concept of performance of military duties has many aspects. This includes participation in combat operations, exercises and ship cruises, performance of job duties, standing alert duty, traveling to and from a place of duty, and performing active duty military training. This list is very clearly defined in legislation of the Russian Federation. It also covers such incidents as protecting the life, health, honor, and dignity of a person, assisting law enforcement bodies, ensuring lawfulness and law and order, and other actions of a serviceman recognized by the court as committed in the interests of society and the state. A serviceman who has voluntarily

brought himself into a state of narcotic or toxic intoxication and commits a socially dangerous act specified by criminal legislation is not considered to be performing military duties. This also applies to those who go absent without leave. The lump-sum benefit is not paid in the event of death or damage to one's health when not related to the performance of military duties.

[Ivanyuk] A final question: Where do you go and what documents do you bring to obtain insurance sums?

[Vorobyev] A detailed answer to this question is contained in the instructions that were implemented by Russian Federation Minister of Defense Order No 246 of 6 May of this year. I will add that by decree of the government of the Russian Federation, the Military Insurance Company is charged with accomplishing the work for mandatory personal insurance of servicemen.

Maj-Gen Ivanov on Course of Military Reforms

*93UM0593A Moscow FEDERATSIYA in Russian
No 54, May 93 p 7*

[Interview with Maj-Gen Gennadiy Dmitriyevich Ivanov, chief of the Military Construction and Reforms Directorate of the Russian Federation Ministry of Defense, by Ivan Sas of the press center of the Russian Federation Ministry of Defense; place and date not given: "Russia's Army: A Year of Formation, a Year of Reforms"]

[Text]

[Sas] The Armed Forces of Russia are one year old. Their organizational development and reformation continue. What has been done during this period and what have we not managed to do? Is the Russian Army able to function today, or is it still like an unfinished aircraft carrier on the slipways? We are talking to Major-General Gennadiy Ivanov, chief of the Military Construction and Reforms Directorate of the Russian Federation Ministry of Defense.

[Ivanov] The primary result of this year is that Russia acquired its own army. It is simply hard to overestimate this fact in the formation of the young Russian state system.

[Sas] Gennadiy Dmitriyevich, many people might object: our new army was seen somewhat differently through the prism of democratic reforms. Small, mobile, and equipped with the latest in science and technology. They wanted to have an armed forces in which it would be an honor to serve, and a military person would have the same degree of social security as in developed countries of the West.

[Ivanov] Given all the shortcomings, this is a precisely controlled army which possesses enormous might, including nuclear might, and which must not be ignored.

And no matter what marks someone may give it, it firmly occupies its place among the strongest armies of the world.

Yes, it is still far from ideal. But let us think about this: Was it realistic to attain perfection in such a short period of time? Especially if you consider that we had to conduct military organizational development in extremely unfavorable conditions. I believe the answer is obvious.

[Sas] But you see, some analysts maintain that the conditions were precisely the most favorable for this. For example, Russia has left the extended period of military confrontation with the West and, as is asserted, it has no more enemies.

[Ivanov] Possibly, this is the only one of the favorable factors and, as they say, we can thank fate for this. But the domestic situation was developing extremely unfavorably. As we know, the collapse of the Soviet Union actually led to the collapse of its previously unified armed forces. We are just now beginning to realize what a danger this was in that extremely unstable situation. And there are few who know what efforts it took many of those who today are in leadership positions in the Armed Forces of Russia to keep these processes from getting out of control, put them in a civilized framework, and then begin to put together a new army from the fragments of the old army, demoralized and losing its combat readiness at a catastrophic pace. It seems to many that everything took shape by itself. No, this was achieved thanks to the most enormous exertion of will by many people and the tremendous amounts of preliminary work that the just-formed Ministry of Defense of Russia and General Staff had to do, figuratively speaking, just to clear an area for the new organizational development.

Let us take this example. During 1992 alone, 15 divisions, 23 missile, artillery, and surface-to-air missile brigades, 36 air and helicopter regiments, more than 180,000 servicemen, 2,000 tanks, about 1,500 artillery systems, and about 1 million tonnes of resources were withdrawn to the territory of the republic. You can imagine what kind of preparatory organizational work had to be accomplished in order to put this entire armada on wheels, deliver it to the new locations, arrange for lodging there, give people at least some kind of roof over their heads, and provide all that is necessary. And all this in conditions of a most acute economic crisis and political and social instability.

[Sas] The military department is often cursed for slowness in conducting reforms. They propose, for example, such variants: sharply cut the army, and you will not have any problems with housing or personnel selection for creating a professional army, select the best of the best from the reserve that has been released...

[Ivanov] The idea is attractive only at first glance. Even if we were to eliminate the army completely, this would not free up a single square meter of living space. There simply is no place for those discharged to go; the housing

received, including office space, is their only shelter. And people hold on to it as their last hope, even in the arctic garrisons, where there is neither work nor normal living conditions. In addition, there are about 150,000 officers and warrant officers without apartments now in the armed forces. And their numbers will increase as troops are withdrawn to the territory of Russia from abroad. This most difficult problem can be resolved only one way—build more housing and allocate more credit to those who are willing to build it for themselves independently.

It also is not all that simple to create a professional army by using personnel who are released during the course of cutting back the reserve. There were even proposals to create officer regiments and divisions. They say, if today's majors and lieutenant colonels do not want to be cut, let them drive the tanks and armored personnel vehicles, let them go into positions of riflemen and so forth. I have a question: Would a venerable journalist who has taken many years to rise to his position agree to continue his career as an editing typist? It is the same in the army. I think it is immoral to force people in any way to make a choice in this case that is not free.

We have cut and will cut the army. The authorized strength of the Russian Armed Forces during 1992 already decreased by more than 220,000 servicemen. This year alone, about 40,000 servicemen have been cut. But, as the minister of defense has repeatedly emphasized, this will be a carefully planned reduction accompanied by a whole set of measures for social adaptation of those discharged.

We are doing and will do all we can to see that the army does not become an additional source of social instability in society. The majority of the programs we have adopted are oriented toward this. Just over the next 2-3 years we will have to retrain and find jobs for about 220,000 servicemen and more than 200,000 of their family members, and provide housing for more than 400,000 people. A special monetary fund is being created for payment of benefits to people discharged under the cuts and their families in order to provide not only moral but also material support for these people during a difficult period.

[Sas] There are politicians who constantly warn about the possibility of some social upheaval or rebellion in the armed forces. What do you think about such predictions?

[Ivanov] I think we have already come out of the dark period in which the situation could have been destabilized by some political actions. Today the army has acquired sufficient immunity and has sensed how slowly but correctly the attitude toward it on the part of the Russian leadership and society as a whole is changing. We are confident that it will be a guarantor of stability. Daily attention to the problems of the armed forces by the highest legislative and executive power, leaders locally, and the public is the key to success.

But we also have big problems. Take the situation that has developed today with manning the Army and Navy with draft-age young people. The Ground Forces are manned at just over the 50-percent level. And you cannot explain to a single soldier's mother why her son should serve "for himself and for that fellow." Of course, everything does not come right away. But I am sure that we are sure to become, and not in the too-distant future, witnesses to the Army's ascent to those glorious heights which are recorded in the annals of Russian history.

CIS: GROUND TROOPS

End of Division Tactical Exercises

93UM0543A Moscow VOYENNY VESTNIK
in Russian No 2, Feb 93 pp 38-41

[Article by Lt-Gen A. Golovnev, chief of the Main Combat Training Directorate and deputy commander in chief of the Ground Forces for combat training: "Tactical Exercises: A New Approach"]

[Text] Tactical exercises are the basic and most effective form of comprehensive troop training and a most important stages in combat teamwork training. At them commanders, staffs, units, and subunits operate day and night in a situation continuously developing according to a single concept and practice measures for combat, technical, and logistic support.

Nevertheless, beginning in 1993, division tactical exercises, other than experimental and research exercises, will no longer be conducted. There are several reasons. First, the funds being allocated for combat training do not permit conducting such costly measures. And in general the costs are incomparable with the anticipated return. You see, basically the staffs of divisions and regiments work actively at them. Lower levels are primarily in the waiting mode and only designate some kind of activity. Assignment of missions in the lower command and control echelons is done in a hurry, since the higher staffs take up the vast majority of the time. Mock combat operations are conducted, as a rule, in the concluding phases of the exercise and are not very instructive.

According to numerous comments of soldiers and officers about exercises of this scale, usually tiresome waiting and incomprehensible movements are remembered. Only those who are called in for the debrief find out why all this was done.

Second, there are no training areas on the territory of Russia that enable a motorized rifle or tank division to deploy as it is supposed to according to the Field Manual and to operate in a practical manner. And an "offensive" or "defensive" outside of training areas causes irreparable damage to the environment.

Third, it was believed that the higher the rank of the exercises, the closer the situation would be to actual

combat. Yes, everything looked quite effective: aviation was flying, explosions were thundering, and firing was almost non-stop. But little good came of all this. It was unclear if the aircraft were friendly or foe; the explosions were on simulation fields, and not where they should have been. Minefields, barriers, and obstacles were realistically created very rarely, and installations for capture or attack are prepared so meagerly that there can be no talk about anything instructive. Real operations are often replaced by unrealistic simulations.

Having abandoned division tactical exercises, the troops have been given the opportunity to conduct company, battalion, and regiment (brigade) tactical exercises in a more qualitative manner. Command post exercises provide plenty of training for division and regiment staffs. I believe that such a system of instruction is sufficient for performance of missions by large units in a combat situation.

The frequency of tactical exercises is also changing now. One exercise is conducted every two years with a separate motorized rifle brigade and full-strength motorized rifle, tank, and artillery-machinegun regiments. Two exercises a year are conducted with battalions and companies, including with live firing. Experimental exercises are conducted at the direction of the minister of defense, his deputies, and military district commanders. The duration of an exercise is: up to seven days for regiment (brigade) exercise; at least four days for a battalion exercise; and up to three days for a company exercise.

The 1984 edition of the Manual on Organizing and Conducting Combined-Arms Tactical Exercises and Command Post Exercises on the Terrain remains one of the governing documents. However, time does not stand still. Many changes have taken place both in our Army and in other armies (in particular, in the structure of armed forces, weapons, and so forth), and some of its provisions have become outdated. It is now being revised.

Primary attention in the new edition is concentrated on examining practical issues of organizing, preparing, and conducting exercises, specific methods of conducting mock combat operations, and operational methods of trainees. We have abandoned going into excessive details on issues, and the manual's provisions grant considerable latitude to the exercise leadership and to trainees. At the same time, the requirements of the previous edition that have been confirmed by experience are retained. It will consist of two parts: Part I for the division and brigade (regiment); Part II for the battalion and company.

The first variant of the draft Manual on Organizing and Conducting Combined-Arms Tactical Exercises, Part II (Battalion, Company), has already been drawn up and is being tested in the troops. Comments, remarks, and suggestions on improving it, taking into account the experience of exercises, and also suggestions on Part I are now being received.

It is no secret that in combat training, as in other spheres of life of the troops, there is now an active search for such forms and methods of work which would best meet modern requirements. Now the Army is accomplishing the same missions, but with far fewer forces. The question often arises in the planning phase: Can an exercise be conducted with a unit or subunit? You see, some units are manned at no more than 50 percent of the peacetime levels. So, maybe we should engage just in individual training?

Opinions on this are divided. Some believe that if the personnel strength of motorized rifle subunits does not exceed half the wartime strength level and, say, a company or battalion is unable to bring out 70 percent of its tanks, infantry fighting vehicles, and armored personnel carriers, it is not expedient to conduct an exercise. Others maintain that where there are or can be manned composite command elements or subunits, consisting even of some command vehicles, exercises not only can but must be conducted, involving all officers, noncommissioned officers, and soldiers in them.

For example, in the Transbaykal Military District they conducted a two-sided regimental tactical exercise under this principle with two reduced-strength regiments, in which subunits up to a platoon inclusively were designated by command vehicles. The exercise was fairly successful. First, it showed that officers serving in reduced-strength units for more than two years lose skills in preparing and conducting exercises and in organizing combat on the terrain. Second, although this exercise involved a limited number of people and equipment, officers here gained experience in command and control of subunits, and the rest of the participants acquired skills in performing their functional duties. The chiefs of the combat arms and services of the division conducted various activities. Therefore, we believe that now, when the personnel shortage is upsetting many commanders, such exercises are necessary, if only to keep officers from losing skills in leadership of troops and for personnel to feel the dynamics of real operations on the battlefield.

Creating composite subunits of the company or battalion type in regiments is seen as another solution. They can be used at exercises in succession or simultaneously (by changing at stages) to train several officer collectives of a unit or large unit.

In addition, in connection with the inclusion of Army Aviation as part of the Ground Forces, the section "Particular Features of Preparing and Conducting Tactical Exercises Employing Aviation of the Ground Forces and Frontal Aviation" has been added to the new manual. It discloses the procedure for joint operations of Ground Forces and aviation and organizing supervision of exercises of aviation large units and units, stipulates variants for the participation of aviation of Ground

Forces in tactical air exercises or combined-arms tactical exercises, and establishes the sortie requirement.

The creation of the Coastal Troops in 1989 as part of the Navy made it necessary to revise the section "Particular Features of Preparing and Conducting Tactical Exercises Involving Ships, Units, and Large Units of the Coastal Troops, and Other Forces of the Navy." This section spells out and documents a number of specific issues concerning practicing coordination between the Ground Forces and coastal units and other forces of the Navy, and supplements and updates the training objectives and tasks when making amphibious landings and conducting an amphibious landing defense of the coast and naval bases (installations).

As experience has shown, psychological training is inseparably linked with risk and overcoming difficulties and deprivations that arise in extreme situations. In our opinion, it is inseparable from combat training and at tactical exercises must achieve the highest effectiveness. Therefore, the position of assistant exercise director is introduced, and the new manual supplements the section "Particular Features of Psychological Training of Troops When Conducting Tactical Exercises." This section will set for its forms and methods and disclose the particular features of forming psychological readiness and the ability to react to unexpected changes in combat. It also defines the procedure for developing psychological stability, teaching survival in extreme conditions (conducting anti-sabotage measures, using various types of fire-arms and edged weapons in total darkness and by ear; the ability to orient oneself quickly on difficult and heavily broken terrain; preserving the efficiency and combat stability of personnel in excess heat or cold, in difficult conditions of salt water, and on "pasturage;" survival in captivity, methods of liberation from captivity, and others).

When preparing a live-fire tactical exercise, calculating targets causes the greatest difficulty. The current manual and the Gunnery Training Manual give "floating" parameters of their necessary number, depending on the composition of the units or subunits involved in the firing. However, they do not take into account either the type of combat, the number and type of participating weapons (friendly and enemy), or other important parameters. The Main Combat Training Directorate and a scientific research institute of the Ministry of Defense have jointly developed new methods for calculating targets, a criterion of which is the fire mission coefficient selected using a computer. It is established taking into account the optimum correlation of forces and weapons according to types of combat (in the offensive and defense), the amount of ammunition being allocated, and the fire missions being carried out in accordance with the tactics and organization of a designated enemy and friendly forces. The total number of targets being set up for each weapon is taken as the basis for the overall calculation, and the number of targets is determined according to this coefficient (see table).

Fire Mission Coefficient			
Number	Armament	Fire Mission Coefficient	
		in offensive	in defense
1	Assault rifle, light machinegun, Kalashnikov machinegun on bipod, sniper rifle	1.0	4.0 (6)
2	Hand-held grenade launcher	0.7	1.3 (4)
3	BMP-1 or BMP-3 gun	1.3	2.5
4	BMP-2 or BMP-3 cannon	1.5	3
5	7.62-mm machinegun mounted on BMP or BTR, Kalashnikov machinegun on tripod mount	2.0	4 (6)
6	14.5-mm machinegun mounted on BTR	1.5	1.5
7	Tank gun	3	4.5 (4.5)
8	7.62-mm tank-mounted machinegun	4.0	6.0 (6.0)
9	Mount-type antitank grenade launcher	3	6.0 (6.0)
10	Offensive hand grenade	2	2
11	defensive hand grenade	-	4

Note: Coefficients for subunits of fortified areas are given in parentheses.

Note: BMP-armored personnel vehicles; BTR-armored transport vehicle.

For example, let us calculate the number of targets for a live-fire tactical exercise on a defensive theme with a motorized rifle company reinforced with a tank platoon. Let there be 45 people armed with AK-74's, 3 with Dragunov sniper rifles [SVD's], 12 with Kalashnikov light machineguns [RPK] (Kalashnikov machineguns [PK]), and 9 with RPG-7's. Nine BMP-2's and three tanks have been allocated for the exercise. In this case, the number of targets needed will be: for personnel: $45 \times 4 = 180$ for those armed with AK-74's, $3 \times 4 = 12$ for those with SVD's, $12 \times 4 = 48$ for those with RPK's (PK's), and $9 \times 1.3 = 12$ for those with RPG-7's; for the BMP-2: $9 \times 3 = 27$ for the 30-mm cannon, $9 \times 4 = 36$ for the 7.62 PK; for the tanks: $3 \times 4.5 = 14$ for the tank gun, $3 \times 6 = 18$ for the 7.62-mm tank-mounted machinegun; for throwing hand grenades $24 \times 2 = 48$. A total of 395 targets. Additionally, one target is set out for firing by the motorized rifle platoon at long range and against the aerial enemy, for a total of 397 targets. In addition, targets are set up for subunits of artillery, air defense, flamethrowers, and aviation in accordance with the number and nature of the fire missions to be accomplished by them according to the gunnery courses (training). Reserve groups of targets are also provided for by decision of the exercise director. These methods, in our view, objectively take

into account all the criteria necessary for the calculation and meet today's requirements.

Evaluation of exercises is a special problem. In accordance with the current manual, now it is accomplished based on the subjective opinions of officials, since there are no real objective criteria so far. After all, you cannot objectively consider such conclusions as: "demonstrated a high degree of teamwork and organization in the work," "skillfully discovered the troop grouping," or "creatively, with a high degree of staff culture planned the battle," "effectively utilized the results of using nuclear weapons," and so forth. How can you measure this teamwork, ability, creativity, or effectiveness? Present documents say nothing about this. There is a search for such criteria, and they have already been specified in the new manual. The standard, degree of mission accomplishment, and shell hole in the target are taken as the basis. The overall evaluation ultimately will take shape as the arithmetic mean of all evaluations received in a company by commanders and personnel and in units and subunits by the headquarters and subunits.

The material base takes on a huge role in training personnel at a tactical exercise. For more than 10 years NATO countries have been making extensive use of electronic systems for training and objective monitoring of troop operations. Laser fire simulators are one of the basic components. Three specialized Army and 11 Air Force training areas on the continental United States have been equipped with such systems.

An attempt was also made to create a similar training area in our country near Lvov, but we have not been able to conduct anything there other than a few experimental and demonstration exercises. Now it belongs to Ukraine. And such a training area is a commander's dream. You see, here there are not only the usual training facilities (gunnery ranges, tactical fields, command posts, tank training areas), but also equipment and weapons equipped with laser simulators. Officers of the training methods center would help conduct an exercise with the greatest instructiveness and effectiveness. Motorized rifle and tank battalions would practice the most complex training missions, including at two-sided tactical exercises, actively opposing one another. Firing simulators provide much. If an accurate shot is made on the "enemy," a special device activates right then; a train of smoke stretches behind a tank or BMP, the soldier's helmet changes color. Sensitive monitoring devices also record hits. Data about who is hit flows to a remote panel, in short, everything takes place as in real combat.

Such a training area in the United States "passes" through 28 battalions in a year. Three days before the start of the activities, personnel are delivered by aircraft, and preparatory measures, briefings, and instruction are conducted over two-three weeks, which conclude with two-sided tactical exercises.

For us, unfortunately, all this is in the distant future, especially now when appropriations for maintaining the armed forces are being reduced. Although the idea of creating such training areas and equipping them with laser simulators came to us back in the 1960's, up to now its implementation is in the initial stage. Automated systems for supporting tactical training of the Ground Forces and operational-tactical training of the Air Force and Air Defense Aviation, according to the most optimistic prognoses, are not expected before 1999. How far will our "neighbors" go ahead in this time, operating such systems already for the second decade?

In spite of everything, intense daily practice in mastering weapons and military equipment remains primary for the troops. Today's and especially tomorrow's training must be as effective as possible and incur the minimum material costs. This can be achieved if the ideology of combat training will be revitalized in a timely manner, if innovative ideas will be implemented efficiently and without delay. Then we will not lose priority on any of the directions. The processes of revitalization have begun, and it is extremely important that they become irreversible.

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Ground Forces Recruiting Ads Begun

Ground Force Ads Described

93UM0557A Moscow KRASNAYA ZVEZDA in Russian
18 May 93 p 1

[Unattributed article: "Larisa Vershkova Invites You Into the Ground Forces"]

[Text] Having raised the question on the need for propagandizing the more attractive features of military service on 17 march, KRASNAYA ZVEZDA has not been restricted to establishing that fact. On 22 April, advertising material devoted to the Strategic Missile Troops was published in the paper. Today (See page 2) we are presenting the Ground Troops. Materials of an advertising nature that are devoted to other services of the Russian Armed Forces are in the working stage.

Judging by the responses that are coming in to the editorial staff, our advertising product is finding demand both in the troops where the shortage of personnel is being acutely felt right now and at military commissariats, schools, PTU [vocational-technical schools], institutes, and defense organizations. For example, the RVSN [Strategic Missile Troops] Commander-in-Chief's staff ordered a set of posters devoted to advertising their troops at our printing house that will be utilized in the work to train young men for military service and to recruit volunteers on contract.

So, read page two. And then some of you will certainly want to begin serving in the Ground Troops as this beautiful girl Larisa Vershkova, whom you see in the

picture, did—she is an actual "professional" and the best telegraph operator in Volga Military District's "N" unit.

Full-Page Ad on Ground Force Benefits, Recruitment Information

93UM0557B Moscow KRASNAYA ZVEZDA
in Russian 18 May 93 p 2

[Full-page Ground Troop benefit, recruitment advertisement: "The Ground Troops Have Everything That You Need. Don't Miss Your Chance!"]

[Text]

You Will Acquire the Broadest Freedom of Selection of Specialties and the Most Alluring Prospects in Service in the Ground Troops Because They—Are the Foundation of the Russian Armed Forces

The history of the Ground Troops runs from most ancient times—from the infantry and cavalry from which any army began.

Today the Ground Troops are all of the variety of types of weaponry and military vehicles that exist in the world: rifle and artillery systems, tanks, armored transport vehicles, and infantry fighting vehicles, missile complexes and helicopter aviation, motor vehicles—heavy trucks and all possible engineer vehicles, and the most complex communications, command and control and electronic warfare systems...

The Ground Troops are the youth of the army. Nearly half of the servicemen here are under 30 years of age.

The Ground Troops are the history of the army which has been associated with the names of A. Suvorov, M. Kutuzov, A. Brusilov, G. Zhukov, S. Biryuzov, N. Batutin, A. Vasilevskiy, I. Konev, P. Rybalko, K. Rokossovskiy and many other celebrated military leaders.

In the Ground Troops, You Will Be Able To:

- select the most attractive specialty for you from more than 3,000 specialties and become a motorized rifleman or a tank crewman, an artillery crewman, or an aviator, missile crewman or combat engineer, motor vehicle driver or communications technician, scout-parachutist or antiaircraft artilleryman...
- acquire the specialties of master of repair of optical-electronic and quantum-electronic equipment, television and measurement devices, and antenna mast devices that are also popular in civilian life; radar site, radio instrument complex, and weather radar specialists; multi-axle vehicle driver-mechanic, and also cook, baker and many others;
- receive free skilled medical service;
- not worry with regard to price increases, inflation, and monetary reform since your monetary salary will be indexed under any circumstances;
- live in one of 20 military garrisons that are being built using hard currency resources that are being erected directly at Ground Troops division-sized and smaller

- units in Moscow, Leningrad, Kursk, Tver, Smolensk, Nizhegorodskiy, Kostroma, Kaluga, Voronezh, Samara, and Perm oblasts and in Krasnodar Kray;
- rise to the rank of General with greater probability and sooner than anywhere else and maybe even become a Marshal of the Russian Federation; and,
 - acquire the right to a pension after a total of just 20 years of service.

DO YOU HAVE FEW ARGUMENTS? THEN LET'S GO ON

The Ground Troops higher command and command engineer schools issue diplomas to their graduates that are highly regarded in organizations and in enterprises of practically all sectors. They especially value military specialists with a higher education in the business sphere.

BUT A MILITARY VUZ [HIGHER EDUCATIONAL INSTITUTION] GRADUATE'S LABOR IS VALUED THAT WAY DIRECTLY IN THE ARMY. FOR EXAMPLE: A MOTORIZED RIFLE PLATOON COMMANDER IN THE RANK OF SENIOR LIEUTENANT HAD THE FOLLOWING SALARY IN APRIL 1993:

—salary for military rank—22,000 rubles; and,—salary for position—R32,000.

A platoon commander earns more than R65,000 with increases for years of service, proficiency rating, with additional payments for performing guard duty and other special conditions of service, and also while considering monetary compensation for rations.

And all servicemen are exempt from payment of income taxes.

Let's also point out that Ground Troops servicemen who are performing service abroad, say, as specialists or advisors, receive a salary in hard currency based on the prescribed norms from position salaries and from military rank salaries.

Furthermore, officers annually receive lump-sum awards for conscientious service in the amount of no less than three salaries. There are also increases for academic ranks and academic degrees up to 30% of the position salary and for knowledge of a foreign language. Each officer is supplied with a set of uniforms, the cost of which was R133,076 in April 1993.

UPON VOLUNTARY ENTRY INTO SERVICE IN THE GROUND TROOPS ON CONTRACT IN THE POSTS OF SERGEANTS AND SOLDIERS, YOU ARE GUARANTEED:

- a monthly salary of up to R33,000;
- a free clothing allowance in the amount of more than R130,000 for an entire set;
- a free rations allowance in the amount of approximately R10,000;

- annual leave with a duration of from 30 to 45 days (depending on service) and plus the time required for round trip travel to the leave location;
- training in the event of an inadequate degree of preparation in the selected specialty;
- quartering in a separate barracks room or in a dormitory if such are available, if you are a bachelor or if you have a family, you will be offered a place in a dormitory, official apartment or you will be paid compensation to sublease housing in the amount of R7,500 per month;
- granting an apartment if the contract is extended;
- the opportunity for study at correspondence or evening civilian higher or middle educational institutions;
- a lump-sum bonus when a contract has been extended for three years—one salary, for five years—two salaries, and, for 10 years—five salaries;
- annual material assistance in the amount of one salary;
- in a remote location, a salary increase of 15-100% (depending on the specific territory); and,
- under the condition of conscientious service, an annual monetary reward of no less than three monthly salaries.

IF YOU FEEL YOURSELF TO BE MORALLY AND PROFESSIONALLY PREPARED TO SERVE IN THE MILITARY UNITS THAT ARE CARRYING OUT A PEACEKEEPING MISSION IN THE ZONES OF INTERETHNIC AND CIVIL CONFLICTS, KNOW THAT THE GROUND TROOPS PRIMARILY CARRY OUT THIS NOBLE MISSION. THOSE WHO HAVE GONE THROUGH THE APPROPRIATE SELECTION IN SUCH UNITS ARE PROVIDED WITH:

- additional monetary salary which in the first quarter of 1993 was over R16,000 for soldiers, over R17,000 for warrant officers, and from R18,000-32,000 for officers, and they plan to double it in the second quarter;
- beneficial calculation of service in the ratio of 1.5 months for one month or three for one depending on the specific location where the unit is located; and,
- additional leave from two weeks to 45 days annually depending on the region where the serviceman is assigned.

Now have you have become convinced of the prospects and attractiveness of service in the Ground Troops? Then, make your selection in their favor!

Those Personnel Who Have a Middle Education and Who Dream About a Military Career, Write to the Addresses of Several Ground Troops VUZ's.

- Moscow Higher Combined-Arms Command School imeni Russian Federation Supreme Soviet. 109380, Moscow, Zh-380.
- Far East Higher Combined-Arms Command School. 675021, Blagoveshchensk-21, Amur Oblast.
- Chelyabinsk Higher Tank Command School. 454030, Chelyabinsk-30.
- Tyumen Higher Military Engineer School. 625028, Tyumen-28.
- Kolomna Higher Artillery Command School. 140403, Kolomna, Moscow Oblast.
- Orenburg Higher Surface-to-Air Missile Command School. 460010, Orenburg-10.
- Syzran Higher Military Aviation Pilot School. 446007, Syzran-7, Samara Oblast.

A complete list of military schools was published in the 19 February 1993 issue of KRASNAYA ZVEZDA.

**WELL, THOSE WHO INTEND TO ENTER
MILITARY SERVICE VOLUNTARILY IN THE
POSITIONS OF SOLDIERS OR SERGEANTS
NEED TO KNOW THAT MEN FROM 18 TO 40
AND WOMEN FROM 20 TO 40 CAN CONCLUDE
A FIRST CONTRACT**

A female citizen or an unmarried married male citizen with a child under eight years of age may serve as grounds for refusal to conclude a contract (if a candidate meets all other requirements).

Selection of candidates for acceptance into military service on contract is conducted:

- among servicemen—by the military unit command authorities; and,
- among conscripts, persons with military obligations and women—by military commissariats based upon the requests of military unit commanders.

Military commissariats are also tasked with determining the fitness of citizens for military service in their selected specialty, completion of required documents and sending candidates to military units for acceptance into military service.

The contract is concluded between the unit commander and the individual being accepted for service.

In the process, the contract is concluded for three years. A contract for a shorter period of time may be concluded with servicemen who are performing military service based upon conscription under the condition that the total duration of his military service based upon conscription and based upon the first contract totals no less than three years.

Subsequently, contracts can be concluded for a period of three, five or ten years.

When a citizen who has been accepted into the service concludes a contract, he is paid a lump-sum monetary bonus in the amount of one month's salary.

During training at a training unit, individuals who have been accepted for military service on contract and who have been sent for training are paid 30% of the salary prescribed for the selected specialty.

**DO YOU HAVE ADDITIONAL QUESTIONS?
THEN CALL THE FOLLOWING TELEPHONE
NUMBERS IN MOSCOW:**

- (095) 296-68-80 (Recruitment for school);
- (095) 296-37-29 (Recruitment on contract); or,
- (095) 296-31-73 (Recruitment for warrant officer school).

We hope that we will be able to offer an interesting specialty to you and we will help you to select a profession that is to your liking. Call from 10:00 to 18:00 during workdays.

Success Definitely Awaits You in the Ground Troops!

2S7M 204-mm Self-Propelled Gun Described

*93UM0571A Moscow KRASNAYA ZVEZDA in Russian
25 May 93 p 2*

[Article by KRASNAYA ZVEZDA Correspondent Colonel Vitaliy Morozov, under the rubric: "Arsenal": "Pion": Firepower and Accuracy"]

[Text] Second generation domestically-produced self-propelled artillery were developed comprehensively, with the involvement of various design bureaus. Nikolay Sergeyevich Popov directed the development of the most powerful artillery system—the 203-mm self-propelled gun at the Kirov Plant in Leningrad. The gun, under the designation 2S7 "Pion" [Peony], began to enter heavy artillery brigades during the second half of the 1970's.

An original tracked chassis was designed under "Pion". They placed the gun on the rear section. Nevertheless, the self-propelled gun's dimensions are impressive: 13,100 X 3,380 X 3,000 mm. But it's combat capabilities are also unique. Today there is no other gun in the world that is capable of firing a high-explosive fragmentation projectile weighing 110 kilograms to a range of more than 37 kilometers and to impart a muzzle velocity of 960 meters per second to the projectile. The specifications of the American 203.2-mm self-propelled howitzer (M110A2) are lower even after modernization in 1978.

On the march, "Pion's" crew is located as follows: the commander, gunner and driver-mechanic—in the cab and the remaining four—in the gun's middle compartment.

The 203-mm gun's round is so powerful that special steps are required to ensure the system's stability and rigidity. Reliable trail spades (which, furthermore, are utilized to dig a trench) are employed. The rear drive wheels (the idler wheels) are also lowered to the ground.

Projectiles and charges are located in the gun's aft section in special housings. Before firing, the projectiles are laid out on the ground and carried to the gun on a cart. A lifting device with a rammer that has been lowered eases the loader's further work. With all of the unusual features of the loading process, "Pion's" rate of fire is higher than the American self-propelled howitzer that is close to it in missions and parameters. This advantage increased after the modernization of our gun in 1983.

During the course of modernization, besides increasing its rate of fire from 1.5 to 2.5 rounds per minute, the carried combat load was doubled. The designers managed to place four additional projectiles and charges in the gun's middle compartment. A firing data reception and display apparatus was added to the 2S7M. The renewed system's guaranteed equipment service life was increased.

The subunits that are equipped with "Pion" self-propelled guns note not only their special firepower but also the invariably high accuracy of fire.

Tactical-Technical Specifications of the 2S7M "Pion" 203-mm Self-Propelled Gun

Maximum firing range, in meters	
—Of a high-explosive fragmentation projectile	37,500
—Of a rocket-assisted projectile	55,000
Rate of fire, rounds per minute	2.5
Angle of elevation	
—Deflection	0 + 60
—Elevation	+/- 30
Transition time from the traveling to the firing position, in minutes	6
Combat load, in rounds	8
Crew	7
Speed, in kph	up to 50
Range based upon fuel, km	500
Weight, kg	
—Of the gun in the traveling position	46,000 +/- 2%
—Of a high-explosive fragmentation projectile	110

CIS: AIR, AIR DEFENSE FORCES

Designer of S-300V's Radar Interviewed

93UM0577C Moscow VESTNIK
PROTIVOVOZDUSHNOY OBORONY in Russian
No 2, 93 pp 44-48

[Interview with Groundbased Detection Radar Chief Designer Yuriy Aleksandrovich Kuznetsov by

VESTNIK PROTIVOVOZDUSHNOY OBORONY Correspondent Colonel Nikolay Poroskov, under the rubric: "Operation of Equipment and Weaponry": "How to Catch Sight of Stealth: Our Interlocutor Is Groundbased Detection Radar Chief Designer Yu. Kuznetsov"]

[Text] Yuriy Aleksandrovich Kuznetsov was born in 1935 in Krasnodar Kray. He graduated from Tomsk Polytechnical Institute's Radio Equipment Department. He was chief of the laboratory, department, and director of the NII [Scientific Research Institute] of Measuring Instruments in Novosibirsk and general director of an NPO [Scientific Production Association]. He has been chief designer of the All-Russian Scientific Research Institute of Radio Equipment since 1987.

He is a candidate of technical sciences. He was chief designer of several radars that are in operation. He is a Lenin Prize laureate. He has been awarded two Red Banner Orders of Labor and medals.

He has an adult son and daughter.

[Poroskov] Yuriy Aleksandrovich, everyone knows the names of chief designers in the aviation sphere. Today, you have been presented to the broad public for the first time and therefore tell us, what do your duties consist of?

[Kuznetsov] I have been tasked to manage and coordinate a complex of scientific research and experimental design work on groundbased detection radars for PVO [Air Defense].

[Poroskov] As far as I know, you personally participated in the development of radars both for PVO and for the Ground Forces and you were chief designer of the S-300 surface-to-air missile complex radar. Incidentally, much has been said and written about the latter while comparing its specifications with the American Patriot. It would be interesting to hear the opinion of one of the surface-to-air missile complex's creators.

[Kuznetsov] Patriot and the S-300 have identical systems composition. The latter was designed to operate both in a unified information support system and also totally autonomously which makes the complex more survivable. The press and television have made undeserved publicity toward Patriot's capability to combat ballistic missiles. As a result, even some of our military experts are rating the complex's capabilities too high. But recall the television pictures during the events in the Persian Gulf. Patriot hit a Scud but the Scud continues its flight and falls on the targeted point and its warhead explodes. In that case, the Scud was not destroyed because it carried out its combat mission. While its adequately effective against aerodynamic targets, the Patriot complex has low effectiveness against ballistic missiles of even the Scud type.

OUR INFORMATION The latest modification—the S-300—has an inertial guidance system with radio correction in flight and active guidance on the final leg of the

trajectory. The warhead is a directed impact (directed detonation) warhead. As a result, an effect is achieved for which a warhead that is 15 times heavier would be required with an undirected impact warhead. There are no similar systems in the world.

[Poroskov] In general, how did the concept of operations of the new development arise?

[Kuznetsov] We proceed primarily from the customer's requirements which are determined by the PVO missions: new offensive weapons with improved specifications, different flight speeds and altitudes are appearing that have new trajectories, including with terrain-following. Add improvement to the potential enemy's electronic countermeasures systems and new types of jamming. Naturally, new ideas, technical solutions and technologies are also appearing—the developers themselves propose their use.

There are no strict rules when developing a radar. This is creativity. There still hasn't been a case when two designers with an identical task would have made the same thing. But in any case the order is the determining factor: a two- or three-dimensional radar is needed with a large or small target-handling capability... It is the same with the primary elements of the radar's appearance: a phased antenna array or can we get by with a mirror antenna, more or less automation and so forth. However identical requirements can be realized in various variations of radar construction, including with the employment of original solutions and inventions. The economic aspect also plays a large role in the selection: the "cost-effectiveness" criterion, that is, the ratio of tactical-technical data to the cost and time of development.

[Poroskov] What are the sequence and cycles of work on an item?

[Kuznetsov] Everything begins with an idea. It is developed in scientific research work after which experimental design work follows, the conceptual and detail designs, the development of design documentation and testing of the experimental model. Prior to that, the technical task is approved which can be made more precise at each stage, the results of work are subjected to expert scientific-technical councils and the chief designers council. Acceptance of stages and testing of models is carried out by commissions. The customer's representatives participate in all of these stages.

[Poroskov] Once in a while, reports appear in the press on the work of individual associates of our NII's and ministries at one of the intelligence services. Obviously, the reverse picture also exists. Do you take advantage of the services of our intelligence services?

[Kuznetsov] Information comes to us through restricted channels. But frequently there are enough articles in the open press. For various reasons, the West is interested in advertising and is not afraid of revealing secrets while proceeding from these considerations: We already have this item and others, even those who have read the

advertisement could still make it but it is cheaper for them to purchase what we already have. The market dictates that. There are other reasons which result in the open publication of ideas that have still not been realized. For example, we became aware of the development of the B-2 aircraft long before the first model took off.

[Poroskov] What has prevented us from operating in the same way?

[Kuznetsov] In trade? Excessive secrecy. We sold not the best models of equipment and we robbed ourselves because we created not the best advertising. That concerns developed items. However, the premature divulgence of ideas of the construction of items that are in development does not always correspond to both the interests of defense and trade.

[Poroskov] Is there a difference between the export version of equipment and the version designed for use within the country?

[Kuznetsov] The specifications are largely preserved. Really with the exception of state affiliation identification devices.

[Poroskov] We know, for example, that our country has priority in the world in the production of vacuum-tube instruments. But what about radar?

[Kuznetsov] While speaking about priorities, you need to examine the entire cycle of ideas until the item enters operation—that is sometimes 10-15 years. We do not lag behind at the beginning of the trip, at the level of ideas. You can see this through articles and existing projects. But ideas frequently remain unclaimed. Lagging behind occurs as the end result is approached, beginning with experimental design work and especially with the start-up of series production. The materialization of ideas is determined not only by intellectual potential but also by production-technical support and by the level of organization in the national economy.

[Poroskov] And yet, are there directions in radar where we are ahead?

[Kuznetsov] Radars combine in themselves the achievements of various sectors. Their foundation are the electronic components which consist of the transmitters, receivers, phased array antennas, jamming resistance systems, displays, computer systems and communications that make up the radar. Electrotechnical components—electrical power sources, electric motors, cables and wires—play a vital role. And take the structural materials: the antenna area—tens of square meters, the rotating masses—up to several tons. Or the special materials—radar absorbing and radar transparent. Transportation systems, power plants, life-support systems... There are interesting results in many of the listed directions.

But you need to assess a radar as an entire complex. Good results have been obtained in the development of mobile radars on one self-propelled transport unit. The

time of their deployment from the march is five minutes and tear down also takes five minutes. They can operate completely autonomously which significantly increases their survivability. In the process, they have modern specifications, including jamming resistance.

We traditionally devote a great deal of attention to the development of metric band radars and we have a priority in that. These radars practically do not react to either clouds or to meteorological formations...

[Poroskov] And they have an advantage while operating against "invisibility"—Stealth. Can you talk in a bit more detail about that?

[Kuznetsov] One of the factors of Stealth's "invisibility" is the shape of the aircraft which has a very low signal return reflection. When using a metric band radar, the aircraft's dimensions are comparable to the wavelength and its shape loses its significance for a return reflection because the entire body resonates. Stealth retains a second factor—the radar absorbent covering or "coating". It substantially increases the aircraft's weight for the metric wave band.

[Poroskov] But the Americans knew about the development of this band of radar in our country and nevertheless continued to work on the program.

[Kuznetsov] First of all, we are talking only about the task of detection. But you need to destroy a detected target—to guide a missile, projectile, that is, a weapon, to it. The required accuracy of their guidance is ensured only while operating at the shorter radio wavelengths. You can say the same thing about the onboard detection systems. Therefore, Stealth's signature for such systems may be substantially lower and PVO's ultimate mission—destruction—will be carried out with less effectiveness.

Secondly, we cannot get by with only metric band radars because they do not satisfy the requirements for precision and jamming resistance in all cases and therefore they are utilized jointly with decimeter and centimeter wave radars. While considering this, the combined specifications of target designation against Stealth will be lower than against a normal target.

OUR INFORMATION. Judging by certain foreign publications, advocates of the Stealth Program count on the poor jamming resistance of metric band radars. However, self-covering jamming will contradict Stealth tactics: having deployed them, it will be revealed itself.

[Poroskov] Today what can oppose the "invisible" aircraft?

[Kuznetsov] "Invisible" aircraft is putting it too strongly. Here it would be more correct to talk not about the degree of the reduction of the detection range but about percentages and tens of percents—depending on the type of aircraft and the radar's wave band.

[Poroskov] Therefore, one can arrive at a conclusion about the inadequate effectiveness of Stealth technology?

[Kuznetsov] No. First of all, cruise missiles can be used that are made based on that technology which have a radar cross section (RCS) that is substantially lower than aircraft RCS's. Secondly, the impact of Stealth is possible in cover jamming that has been launched from remote targets and that also reduces detection range. Finally, we need to consider what was said above about the guidance systems and onboard detection systems. So, Stealth technology poses additional tasks for PVO.

There are several directions of countermeasures. This is the utilization of super wideband signals, including video signals. Furthermore, Stealth reflects a signal considerably more to the sides—not from the point of illumination. Hence—a multi-position radar, that is, separation of the transmitting and receiving positions. A direct solution is also possible: increasing a radar's potential—the radiation output.

[Poroskov] In what other spheres besides military are your radars used?

[Kuznetsov] That is a timely question. The civilian sphere also needs information support about the situation in the airspace, specifically, for air traffic control. We cannot divide the space over the country into departmental spheres that can't be crossed. It is advisable to have a unified information space. Right now a project is being realized for the development of a single integrated air situation radar support system. The project's importance and the anticipated effect make it worthy of the status of a national program: information from the radars will be utilized by military and civilian consumers. Incidentally, one and the same radars are already being utilized by military and civilian services. For example, a P-37 radar is being operated in the PVO, Air Force and the civilian air fleet and, so to speak, they have dual use.

OUR INFORMATION. On territory that is similar in area of the NATO countries and the former USSR, the number of radars in our country is significantly higher—from the aspiration to have continuous, all-altitude radar coverage and the presence of "non-departmental" radar sites. Their large numbers also require large expenditures for equipping and operation and give rise to the aspiration to not complicate equipment too much.

According to the experts, it would be rational to substantially reduce the number of radars in operation, having reoriented ourselves to the utilization of modern, more effectively (naturally, and more expensive) sites, and to transfer their operation to professional servicing on contract, including by the manufacturing firm. This experience exists abroad.

[Poroskov] It's no secret that our radars are being sold abroad. How have they proven themselves, specifically, in regional conflicts?

[Kuznetsov] Only our old equipment has participated in combat operations: P-12's, P-37's, etc. Manual systems that are inadequately jam resistant. Their capabilities are not great under conditions of massive air raids and jamming. In Iraq, the multinational forces conducted reconnaissance then used intensive jamming, practically not flying onto enemy territory. Iraq practically did not oppose the reconnaissance and did not shoot down the jammers. The opposing side had reliable information on Iraq's air defense system because its formation into a single whole was carried out with the participation of firms of the countries that were part of the multinational forces.

[Poroskov] You led up to the fact that we need to trade not only individual systems but also to combine them in a PVO system for effective utilization of equipment. What precisely?

[Kuznetsov] Several radars of various types, automation systems, strike weapons—surface-to-air missile complexes and fighter aviation. To ensure their interoperability, adaptation of systems to jamming, overlap of detection zones, etc.

[Poroskov] Are some sort of profits from the sale of equipment abroad going to the developers?

[Kuznetsov] Often the chief designer does not know where his equipment is being sold. The plant-manufacturer sells it, as a rule, through a foreign trade intermediary. Essentially, the author's right, in accordance with which the author can receive his share from the sale, is being violated. The customer finances the developer and only until the creation of documentation and its transfer to the plant after testing of the experimental model. If it was at least annual financing until recently, right now it is completely quarterly. You have to get credit at the bank but the interest for it is not provided for in the price...

[Poroskov] We need to assume that this is a consequence of the changes in the state's economic policy. Or is it the result of hasty conversion?

[Kuznetsov] This is sooner the consequence of the lack of fine tuning of the new economic system. Conversion itself, which is perceived as well-founded and irreversible, does not cause concern but the way it is being done does cause concern. The impression is that we want to live one year at a time without looking to the future. For example, American experts think: if the volume of conversion of production exceeds 10% per year—that is a catastrophe. Those rates disorganize and destroy the defense industry: it is well organized, fine-tuned and equipped—it is impossible to rapidly retool it. Rational rates exist—with the preservation of that portion that works for defense with emphasis on long-term programs for arming the army. At some enterprises even today half of the output is civilian products. And later—not only the military will need radars.

Far from always is there total clarity on radar deliveries and contracts. Meanwhile, the entire cycle of manufacturing a modern radar is approximately a year. The situation is serious.

We are yielding our position in external sales of military equipment. Our departure from the arms market is not resulting in a reduction of the total volume of sales, other countries are taking our place. We are bearing economic losses. This does not have a satisfactory explanation—this is a question of defensive weaponry and PVO equipment belongs in that category. Let's recall the well-known fact: In 1991, various countries were prepared to purchase approximately 200 MIG-29 aircraft. The amount of the sale—billions of dollars. We did not take advantage of that opportunity...

The dynamics of expenditures for scientific research and experimental design work (NIOKR) on the whole according to the defense subject matter is going down both in absolute numbers and also, which is very dangerous, in relative numbers: NIOKR's share in total expenditures for defense is declining. With that approach, the losses of scientific-technical potential could be irrecoverable.

The army is an attribute of the state and must be the subject of its concern the same as the defense industry. That's how it always has been in the history of the Russian State and that's how matters stand in the developed countries. A struggle for defense orders is occurring in the West: they are most profitable economically and there are guarantees of profits. Right now the former and the latter are disappearing in our country.

[Poroskov] In your view, what needs to change?

[Kuznetsov] Arms programs must have the status of state programs (we can make the existing ones more precise—of the former Union Ministry of Defense) with guarantees of financing. On the basis of these guarantees, the military department must conclude contracts for the delivery immediately for the entire required number of items and for the entire period. A single comprehensive contract—for OKR [experimental design work] and for delivery of the required number of items—is also acceptable.

[Poroskov] The division of the army—that is also the division of its scientific potential. One element—the KB [design bureau] that is located in Ukraine—is falling out of your system. Will the former union republics be able to provide themselves with radars?

[Kuznetsov] The division of the army should not be accompanied by the destruction of scientific-production cooperation for military equipment within the CIS. It can and should be largely preserved. Otherwise, we will bear large losses.

If you have in mind radars, then only the Russian Federation can satisfactorily provide for itself. But it will even be more advantageous for it to preserve the former

cooperation than to organize production in the Russian Federation. The primary question—is the effective defense of the rights of customers and suppliers based upon contracts.

[Poroskov] And in conclusion, Yuriy Aleksandrovich, a few words about the prospects, maybe, of the nontraditional approaches to the tasks of detecting targets. Defense of airspace is a timely issue for the foreseeable future.

[Kuznetsov] In the near term, radar will be the primary method for detection of air targets. For the time being, other well-known methods will only supplement the primary method but cannot replace it. So, in radar's future, utilization for civilian needs is more stable.

But traditional radar is also experiencing a number of difficulties. This is associated with the development of offensive weapons systems—the Stealth mentioned above—and targets at low altitudes with terrain-following, tactical ballistic missiles, cruise missiles, maneuverable reentry vehicles of ballistic missiles, etc., and also with the improvement of PVO radar countermeasures systems—passive, powerful and varied active jammers, antiradiation missiles that are guided to radars, target simulators and decoys. All of this requires the improvement of radars, increased jamming resistance, reliability, survivability, and mobility, increasing the sector of responsibility, increasing operating range and others. The tasks are contradictory and therefore the search for new solutions and improvement of well-known ones is urgent.

According to the prediction of foreign experts, a radar on the border of the 20th and 21st centuries will be an active phased array antenna with digital formation of beams and a digital computer complex for forming and processing signals, adaptation to the jamming situation, and command and control of radar operation. From the nontraditional formations which will be developed, multi-position radar complexes, radars without a carrier frequency (video signals), radars that are concealed for electronic reconnaissance that have a low power flux density level in space and that simultaneously utilize randomly changing coded signals and other directions will be noted. In the process, the possibility of the development of an all-purpose radar that is capable of carrying out all of the detection missions is considered to be doubtful. Emphasis is being placed on the comprehensive use of different radar systems that are combined into a detection system. And, finally, improvement and development of new radio elements is a necessary condition of the development of radar.

Definite research and development have been provided for in our country. However, here premature information does not meet our interests. All the more so that there is uncertainty in the possibility of organizing work.

[Poroskov] Under what conditions is it possible to carry out these projects?

[Kuznetsov] Under a state approach toward the issues of the defense industry.

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Tactical Missions, Requirements of Missile-Space Defense

93UM0577B Moscow VESTNIK
PROTIVOVOZDUSHNOY OBORONY in Russian
No 2, 93 pp 9-10

[Article by Colonel Anatoliy Ivanovich Panchenko, under the rubric: "Combat Training": "To Whom Do We Give the Reins of Command"]

[Text]

Calling Card.

Colonel Anatoliy Ivanovich Panchenko was born in 1947. He has been in the Armed Forces since 1965. He graduated from Minsk PVO Higher Surface-to-Air Missile Engineering School and the PVO Military Command Academy. He served in Moscow PVO District. Since 1991, he has been Military Academy of the General Staff senior professor and he is a candidate of military sciences.

The experience of operational and strategic exercises that have been conducted in the United States and in the NATO bloc and also the local wars and conflicts that have recently occurred with the participation of aerospace offensive forces eloquently attest to the integration of the aerospace forces, groundbased and naval forces while carrying out the primary missions and attaining a unified goal. In this regard, preliminary painstaking preparation of organized forms of operational-strategic employment of assets is being carried out. Moreover, the preparation of any scale of operation is impossible without the corresponding level of centralization of command and control.

On the other hand, only a comprehensive system of aerospace defense can be most effectively opposed to the unified aerospace reconnaissance-strike force that has been created within the NATO bloc. We all know that the degree of centralization of troop command and control depends on the level of the aerospace defense missions being carried out. At the present time, two levels of air defense missions are most clearly visible: tactical and operational-strategic. Tactical missions are associated first of all with the direct defense of facilities that are the most important for all of the commonwealth states (AES [nuclear power plants], GES [hydroelectric stations], fuel-energy centers, and state and military command and control organs) and troop formations during the preparation for and conduct of defensive combat operations. Carrying out these missions requires centralization of automated command and control in tactical division-sized and smaller units. This command and control is based on the principle of "reconnoitered-destroyed" and in very short periods of time.

Operational-strategic missions are somewhat different: this is the implementation of missile-space defense; disruption of offensive air operations, without the conduct of which enemy offensive ground and naval force operations are impossible; combating strategic aviation and strategic cruise missiles in flight; revealing enemy preparations for aerospace attack and providing information to the CIS VGK [Supreme High Command] and to the main commands of individual Commonwealth states; defending forces in the TVDs [Theaters of Military Operations] that have been deployed according to mobilization plans, and naval forces in the maritime TVDs; carrying out air defense of facilities of the strategic nuclear forces (RVSN [Strategic Missile Forces] launch positions, VMB [Naval Bases], underwater cruiser [missile submarine] patrol areas, long range aviation airfields) and a number of others.

Carrying out these missions is inseparably linked with the unified command of these forces which centralized command and control of their combat operations must exercise.

It is sufficiently difficult from the material aspect and absurd from the military point of view for each Commonwealth state to individually carry out space-missile defense. The reins of command must be concentrated in one pair of hands! An obvious fact: organized and painstakingly prepared enemy air operations can be most successfully repelled only by PVO Forces organized operations of the appropriate scale. Examination of a situation when the disruption of any enemy offensive air operation will be carried out only through the uncoordinated operations of tactical division-sized and smaller units without a unified concept of operations and a plan is exclusively erroneous and absurd. Let's turn to several examples for persuasiveness.

Developed offensive systems are capable of attacking several dozen loosely coordinated firing positions. They are, let's say, cruise missiles, antiradiation missiles and projectiles, etc. The launch range of these missiles is from 50-70 kilometers to 3,000-4,000 km.

The weapons operating range must be appropriate for the timely destruction of these targets before they reach their missile launch points. However, to do that, there must be an adequately large range for transmitting radar reconnaissance data—as a minimum two times greater than the destruction range because the speed of offensive air weapons systems is very great. Hence, it ensues: if weapons systems combat operations can be organized at the tactical level, radar reconnaissance to support these operations can also be organized at the operational level. Otherwise, it is impossible to attain the total realization of the weapons systems combat capabilities. Therefore, the division of reconnaissance systems based on ethnic apartments will result in significant complications in the organization of cooperation and will reduce the accuracy of the information being transmitted.

The next spectrum of the problems is associated with the principle of the echeloned disposition of PVO which is determined by the varied arsenal of offensive aerospace weapons: from remotely piloted vehicles to space systems.

The Persian Gulf War eloquently demonstrated the organic link of space systems with ground systems, that is, the effectiveness of fire of some depends on the combat capabilities of others and their operations are carried out under unified command and control.

The principle of the echeloned disposition of PVO is the most optimal and economically justified.

Under these conditions, PVO's end goal is attained through the successive fulfillment of operational and tactical missions at each echelon.

The state's operational-strategic PVO missions are carried out in aerospace and in the theaters of military operations during the course of conducting operations to prevent gaining superiority in air and space. Direct defense of facilities is carried out at the tactical level. Therefore, the need for an echeloned disposition while considering the results of combat operations on the borders of other states will arise during the course of creating air defense in each CIS state. This is also associated with certain difficulties.

And the last thing. In my view, we should not artificially divide airspace and space at the contemporary level of development of offensive weapons systems. The durability of air defense in the airspace will substantially depend upon the effectiveness of space defense. Therefore, the artificial division of these components into different departments will result in the disruption of centralized command and control of the aerospace defense process and therefore in the reduction of the effectiveness of its combat capabilities. So, if missile-space defense and air defense will be subordinate to different organs and also divided into separate independent units by states, then only cooperation and coordination of missions is possible between them. All of this will ultimately result in the reduction of the effectiveness of carrying out not only operational-strategic but also tactical missions.

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Future Requirements of Russian Air Defense

93UM0577A Moscow VESTNIK
PROTIVOVOZDUSHNOY OBORONY in Russian
No 2, 93 pp 5-8

[Article by Scientific Research Institute Head, Doctor of Technical Sciences, Major-General Anatoliy Sergeyevich Sumin, under the rubric: "View on a Problem": "Russia's PVO: The Path Toward Fragmentation or Integration?"]

[Text]

Calling Card

Anatoliy Sergeyevich Sumin was born in 1939 in Mozhaysk in Moscow Oblast. In 1956, after graduation from Kursk Suvorov School, he became a cadet of Minsk Higher Military Surface-to-Air Missile Engineering School which he completed in 1961.

He underwent his professional formation at a PVO [Air Defense] Forces range where Officer Sumin served until 1965. Then, work at a scientific research institute, studies at the Higher Academic Courses under the PVO Military Command Academy and Higher Defense Courses under the Military Academy of the General Staff.

He has headed a scientific research institute since 1989. In 1991, he defended his dissertation—he was awarded the academic degree of doctor of technical sciences, he is a major-general.

Air defense is an important element of the system for ensuring the security of any sovereign state. It is carried out to defend military and national economic facilities, groups of forces and the population from air strikes (and in the future from space strikes) and also to guard the state border in airspace. Air defense is organized in the majority of the world's countries in some form or other.

The interests of ensuring Russian Federation national security dictate the need for further improvement and development of the country's and Armed Forces PVO system. Bringing the make-up of the PVO Forces (structure and composition of forces, their deployment, etc.) into accord with the new conditions of both an external political and internal nature are the main content of practical steps for reforming the PVO system in the near future.

The provisions of Russia's military doctrine and other legislative documents must be reference points in the process of reforming the PVO Forces.

Analysis of the provisions of the draft "Osnov voyennoy doktriny Rossii" [Fundamentals of Russia's Military Doctrine] show: those assets that are part of the PVO Forces at the present time must be orientated toward increasing the reliability of nuclear deterrence as the most important factor of strategic stability. This is achieved through providing reliable information to the President and the Supreme Main Command Authorities for making decisions on strategic nuclear forces response measures and also for the creation of conditions that exclude the appearance of a real threat of their destruction during the course of a war with the employment of conventional types of weapons.

In the interest of carrying out this mission, the improvement of the assets designed to warn about an aerospace attack must become one of the priority directions of the development of air defense.

When a threat of armed conflict emerges in any of the regions where Russia's interests may be affected, air defense, jointly with Armed Forces strike components, must be capable, during the course of repelling the first enemy air strikes, of ensuring we win superiority in the air, defend the most important state and military command and control facilities and military and economic facilities, and thereby create favorable conditions for the strategic deployment of the Armed Forces, prevent escalation of the conflict and the disruption of the regional and strategic balance as a whole.

Doctrinal provisions along the directions of ensuring Russia's security envision the rejection of full-strength, powerful defense along all axes and orient the development of groups of forces' constant readiness on repelling local scale aggression. I think that mobile reserves and rapid deployment forces that are capable of maneuvering (redeployment) in the shortest periods of time to any region and, jointly with constant readiness troops, are capable of repelling medium scale aggression will be one of the most important Armed Forces components.

The high probability of the emergence of local wars and regional military conflicts, the uncertainty of the nature of their development, and also the limitation of manpower, material and financial resources require new approaches to carrying out PVO missions.

Research shows that after the PVO Forces reductions, the creation of sufficient (adequate to the threat) air defense formations will be possible only by setting into motion a powerful mobile PVO reserve, the employment of which will permit us to flexibly react to the expansion of a threat in various regions and also to ensure the rational utilization of assets under conditions of the drastic reduction of the resources for defense.

Creation of powerful, mobile PVO reserves that are equipped with modern fighter-interceptor aircraft, mobile surface-to-air missile complexes, and reconnaissance and command and control systems, including air-based systems, is the priority task of improving air defense. It must be resolved in the first stages of the creation (reform) of the Russian Federation Armed Forces. Its resolution will require the development and realization of new, non-traditional approaches to staff and troop training, equipping them, and supporting and employing PVO division-sized and smaller units from the mobile reserve.

In my view, it is necessary to have an aerospace attack intelligence and warning system and a missile-space and air defense system to carry out the air defense missions within the Russian Armed Forces. Various opinions exist on the advisability of merging these systems into one service of the Armed Forces but then again they express a polarized point of view—PVO and RVSN [Strategic Missile Forces] as independent services of the Armed Forces. In the process, there are rational grains in each statement on this subject. But here we need to keep

in mind that the fundamental structures of the transformation of the Armed Forces will require significant material outlays and time to restructure the command and control system, for weapons orders and purchases, and to train personnel.

The results of scientific research work show: the solution of the problems of the fundamental structural transformations of our Armed Forces have still not matured not only from the point of view of the state's material capabilities but also even in the theoretical context. The experience of fundamental breakups in our history is very rich and it confirms: frequently we end up with a result that is not quite what we aspired to. Therefore, I think that adjustments to such major issues of military structural development as the organization of the Armed Forces must be introduced only after a detailed theoretical critical analysis that excludes any subsequent substantial uncertainties in the consequences and only in the presence of all required material preconditions.

For example, while analyzing the different variations of the Russian Federation Armed Forces structure, one can arrive at the following conclusions. Those variations of the Russian Federation Armed Forces structure that envision the dismemberment of the unified air defense component system whatsoever—IA [Fighter Aviation], ZRV [Surface-to-Air Missile Forces], RTV [Radio Technical Troops] and (or) the isolation of the air defense and missile-space defense systems—are unacceptable.

PVO Forces' fighter aviation, surface-to-air missile troops, radiotechnical troops and the special troops carry out one mission—combating offensive air weapons systems. At the present time, a centralized command and control system for these forces has been deployed and is functioning. The information-intelligence systems (first of all the radiotechnical troops) has been structured while taking into account providing required information to fighter aviation units, surface-to-air missile division-sized and smaller units, REB [Electronic Warfare] units and subunits, and also PVO forces command and control organs.

Calculations show: violation of the principle of comprehensive development of the PVO system elements (IA, ZRV, and RTV) will result in a reduction of the effectiveness of the utilization of the capabilities of PVO forces of different services and ultimately to a reduction of the effectiveness of combating offensive air weapons systems. Furthermore, this will result in a deterioration of the conditions for ensuring flying safety of our own aviation and the heightened probability of destruction of fighter-interceptor aircraft by surface-to-air missile fire. Carrying out the task of ensuring the electromagnetic compatibility of various types of RES [Electronic Systems] will be significantly impeded and the probability of creating unintentional interference will increase. The isolated development of fighter aviation and the surface-to-air missile troops will result in the development of air attack intelligence and warning systems that duplicate each other.

In the leading NATO countries that are located in a geostrategic position that is comparable with Russia's position, practically all PVO assets are combined in a unified system that ensures centralized command and control of them (only the PVO forces that are intended to defend ground forces units and subunits from air strikes on the battle field and shipborne PVO systems are an exception). However ground and naval forces PVO assets (medium and short range surface-to-air missile complexes) are operationally subordinate to NATO's Unified Air Defense Command and Control System in Europe. This permitted the realization of the formation of the NATO Air Defense System according to the territorial principle (the territory of the European NATO countries has been divided into air defense zones, regions and sectors within which command of all air defense assets is carried out regardless of their service affiliation). The primary air defense forces that carry out the missions of defending territory and the NATO countries' most important armed forces and economic facilities have been concentrated into one Armed Forces service—the air force.

Research shows that regardless of whether or not the PVO Forces will be preserved as an independent service of the Russian Armed Forces in the future, the assets that combat SVN [offensive air weapons systems] (IA, ZRV, RTV) must be subordinated to a single command authority, in the extreme (worst) case—operationally. A significant increase of the effectiveness of carrying out PVO missions can be achieved with the operational subordination of the Air Force fighter aviation, Ground Forces and Naval Forces PVO assets to the PVO command and control organs and the transition on this basis to a territorial formation of the Russian Federation Air Defense system (according to PVO zones and regions).

All PVO assets that are deployed or are present in these zones and regions, regardless of their subordination, must be operationally subordinate to the commanders of the PVO zones and regions. They must be tasked with all of the entirety of the responsibility for carrying out PVO missions and the operational preparation of the territory of the zone on the interest of PVO and organization of combat command and control of all assets within the prescribed borders. With a restricted composition of forces, this formation will permit us to most fully utilize the capabilities of PVO armies and the air defense assets of military districts and fleets, preserve the created and continuously functioning intelligence and combat command and control system, and also ensure favorable conditions for future development of the country's and Armed Forces PVO as a unified system.

While considering the orientation of the PVO forces to constant readiness to repel aggression, first of all on a local scale, it would be advisable to grant greater authority to PVO zone and region commanders in the assessment of the degree of threat of air attack, the selection of methods, techniques and time of initiation of direct training of the troops to repel air aggression.

Centralized command and control of all PVO naval and ground forces within the borders of PVO zones and regions would simplify carrying out the mission of organizing coordination of groundbased PVO forces and fighter aviation, and ensure the flight safety of our aviation in active PVO weapons system zones of operation.

During the course of creating and developing Russian Federation air defense, in my view, it is necessary to take into account the following aspect. There are all of the grounds to suggest that in the future the forces of mutual attraction will begin to operate in the CIS. I think that the time is near when an Agreement on the CIS and Commonwealth OVS [Unified Armed Forces] Unified PVO (VKO [Space Defense]) System will be in force between the CIS states. It could include, along with the PVO zones on Russian territory, the PVO territorial armies and divisions (zones and regions) of the states that have signed that agreement. In this case, the PVO forces of Russia and the other Commonwealth states must be operationally subordinate to the CIS OVS command authorities and the functions of the CIS Unified PVO System can be assigned to the PVO Forces TsKP [Central Command Post]. Therefore, during the course of improving the structure of the Russian Federation PVO command and control system, we need to ensure its flexibility and capability to effectively react to changes of the political situation in the independent states of the Commonwealth.

An analysis of the directions of development of aerospace attack systems shows that in the near future the interrelationship of the missions of combating systems that operate in airspace can be drastically increased. A process of the comprehensive employment of systems with various forms of basing is occurring and aerospace is increasingly becoming a unified sphere of armed combat. Under these conditions, not to utilize those capabilities which the PVO Forces have at their disposal today to organize the comprehensive resolution of the missions of armed combat in aerospace would be short-sighted. The isolated development of air defense and missile-space defense systems will result in the future in significant additional material expenditures for the development of systems with "intersecting" capabilities and will aggravate the problem of compatibility (ensuring the normal functioning and safety) of these systems.

These factors cause the need for further development of Russian Federation (CIS) PVO systems in the direction of creating a unified aerospace defense system. We should not disregard the fact that it is along this path that the development of a similar U.S. system will proceed in the next decade.

The capability of PVO assets to carry out the task of timely and reliable warning of the Russian Federation President on the threat and initiation of an aerospace attack is the required condition of ensuring strategic stability. The disintegration of the USSR and the formation of independent states on its territory has resulted in

the fact that a significant portion of the elements of the unified missile attack warning system have turned out to be outside Russia's borders which is one of two states in which our planet's primary nuclear weapons arsenals are concentrated. A breakdown of the functioning of warning system elements on the territory of nearby foreign countries will have a negative impact on the state of strategic stability. The deployment of new warning systems on Russian territory will require significant time and material outlays and will be difficult under conditions of the continuing processes of the disintegration of the economic and scientific potentials of the Commonwealth states. Therefore, in the interest of ensuring the security of Russia and the other Commonwealth countries, it is necessary to immediately draw up and sign agreements that guarantee the preservation of the warning systems with all of the elements that compose them.

So, carrying out Russian PVO missions will be more effectively ensured and with the least expenditures with the unification of the elements of the antiaircraft defense (IA, ZRV, RTV) and missile-space defense system into a unified system of air (and in the future aerospace) defense. In the interest of ensuring the security of the Commonwealth states and the preservation of strategic stability, the most important elements of the PVO system, first of all PRN [missile attack warning] system resources that are deployed outside Russia's borders, in the near future must continue their functioning as part of a Commonwealth states unified missile attack warning system.

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KAB-500Kr, KAB-500L Guided Aerial Bombs Described

93UM0580A Moscow KRASNAYA ZVEZDA in Russian 28 May 93 p 2

[Article by Col Valentin Rudenko, KRASNAYA ZVEZDA correspondent: "Aerial Bombs Look for the Target"]

[Text] During the Persian Gulf War, 88,000 tonnes of conventional aerial bombs and 6,500 tons of guided aerial bombs (7 percent of the total) were dropped. Whereas the conventional bombs hit the target only 25 percent of the time (one out of every four bombs), the guided bombs had practically a perfect record. And the latter were used, as a rule, against small, well-fortified targets.

The United States appreciated the effectiveness of guided bombs, classified as high-precision airborne armament, back during the Vietnam War and worked intensively to create a wide spectrum of guided aerial bombs for frontal and long-range aviation. When in 1972 we began developing the first domestic guided aerial bomb (KAB-500L) with a laser semiactive homing head, the Americans already had in their arsenal about

two dozen modifications of guided aerial bombs. At that time we were about 10 years behind the United States.

The "Region" State Scientific Production Enterprise [GNPP] needed only three years to bring the KAB-500L to series production. In 1975, frontal aviation began receiving this bomb. Chief designer Nikolay Privalov was in charge of the work to create this bomb. All subsequent guided aerial bombs were developed under the direction of the present chief designer of the "Region" GNPP, Boris Martsalov.

"Our firm has developed a number of first-generation guided bombs," says Boris Yevgenyevich [Martsalov]. "Among them are 500-kg and 1500-kg bombs with laser and TV-correlation guidance systems and various types of warheads (high-explosive, penetrating, cluster, concrete-piercing, and others). The most perfected among these are the bombs with TV-correlation homing heads. According to the specifications and performance characteristics, they are just as good as their western counterparts and even better for a number of parameters. For example, unlike the American and French guided aerial bombs, which lock on optically to contrast targets, guidance of our guided aerial bombs is accomplished by terrain matching, that is, they are able to operate against low-contrast targets, including camouflaged objects.

At the same time, if we talk about the entire family of guided bombs, we should recognize that we have not yet caught up to the United States. In the West they are already working on fourth-generation guided aerial bombs. If we are not provided specific-purpose financing of a program for creating new models of guided aerial bombs, the gap may increase.

Basic Specifications and Performance Characteristics of Guided Aerial Bombs

	KAB-500Kr	KAB-1500L
Weight, kg	560	1500
Length, mm	3050	4600
Diameter, mm	350	580
Wingspan, mm	850	850/1300
Type of guidance system	TV-correlation homing head	Laser homing head
Type of warhead	Concrete-piercing	penetrating, high-explosive
Weight of warhead, kg	380	1100
Altitude of use, km	0.5-5	1-15
Aircraft bombing speed, km/hr	550-1100	550-1500
Accuracy, m	3	7-10

After being dropped from the aircraft, the guided aerial bombs are completely autonomous. The principle of "fire and forget" is used in these munitions. A high degree of accuracy is achieved, and the deviation from the target does not exceed 3 meters. During practice

bombings at one of the aviation large units, deviations of the KAB-500Kr from the aiming points were not recorded once. There also were no bomb malfunctions in the air. This makes it possible to talk about guided bombs as the most effective type of air-to-surface armament. Possessing the advantages of conventional bombs in terms of a powerful warhead, guided aerial bombs are comparable in accuracy to guided missiles whose warheads are one-third to one-fourth their size. It is assumed that the targets of guided bombs will be small, hardened targets—fortifications, strategic command posts, nuclear missile silos, tunnel entrances, runways, bridges, dams, electric power plants, and so forth.

Experts believe that in the near future our guided aerial bombs may be competitive in the foreign market for high-precision aerial weapons. Potential buyers could have become acquainted with them at the Moscow Air Show-92 and Idex-93 in Abu Dhabi (United Arab Emirates).

Another thing. Although guided aerial bombs were created as a formidable combat weapon, at the "Region" GNPP they believe that under certain conditions they can also be used in the interests of the national economy. In particular, they can be used for conducting seismic research, geological exploration, and fighting ice jams, salt dams, landslides, large fires, and other natural disasters, primarily where it is impossible to effectively use other traditional means.

CIS: NAVAL FORCES

Combat Training Chief Evaluates Northern Fleet

93UM0596A Moscow ARMIYA in Russian No 1, 93 pp 34-36

[Interview with Vice-Admiral Vasilii Alekseyevich Poroshin, deputy commander and chief of the Combat Training Directorate of the Northern Fleet, by Col A. Nekrylov, ARMIYA correspondent; place and date not given: "We Must Keep the Ships"]

[Text] The end-of-training-period performance evaluation for 1992 has taken place in the Russian Federation Armed Forces. This is the first serious test of the new army's combat maturity. What did it show? Is there someone and something with which to protect our ailing but native fatherland today? Is planned combat training possible at all in our very difficult times? Colonel A. Nekrylov, a correspondent of the journal, talks with the deputy commander and chief of the Combat Training Directorate of the Northern Fleet, Vice-Admiral V. Poroshin.

[Nekrylov] Vasilii Alekseyevich, the Northern Fleet comprises the basis of Russia's maritime combat might. It has first-rate surface ships and submarines and the most modern armament. But how did the fleet conclude the training year? For example, are you satisfied with the results of combat training?

[Poroshin] Yes and no. The overall picture is not bad. The fleet did not look any worse than last year. The ship crews which were evaluated, and the evaluation was conducted by the Navy Main Staff for many types of combat training, including practical use of combat weapons, demonstrated good proficiency. And this is during our difficult times. On the other hand, the evaluation brought to light the main thing, which we are afraid even to admit ourselves: there is no progress. We have stopped in our growth, and for individual types of combat training have even begun to lose experience and skills. For example, on things such as employment of ballistic missiles by submarines, use of torpedo weapons...

[Nekrylov] How do you explain this?

[Poroshin] We do not have enough petroleum oils and lubricants and ship repair assets. In this connection, sea sorties have been sharply cut back, particularly for surface ships, and that means decreased opportunities for practicing combat training missions. Whereas before, back a year ago, dozens of our ships were constantly at sea, now they number in the single digits.

For various reasons, political and economic, there also were no practice launches of ballistic missiles by undersea missile cruisers. All firings by strategic undersea missile cruisers are carried out exclusively in simple conditions. The sailors know what that is. Matters were no better in torpedo training. Here the unrealistic simulation reached the limits. Out of 221 combat drills, there were only 68 firings, i.e., only about 30 percent were carried out with actual use of torpedoes. The remaining 70 percent were conducted as electronic launches. This, of course, increased mastery little. Even during the course of the end-of-training-period evaluation we were forced to perform some of the drills, not at sea, as always done, with practical use of weapons, but as simulations, in classrooms. Unrealistic simulation, you will agree, does not give a sailor the skills he needs in real combat. No computer will replace the sea.

[Nekrylov] Does it not seem to you that the foreign political climate influences the lowering of the level of combat training, after all, the world has "warmed up" noticeably and there is no obvious confrontation of states?

[Poroshin] I would not say that things are that way for everyone. Look, in 1992 there were about 180 exercises conducted by the armed forces of foreign states, with the participation of navies. In that number, the largest exercise by the NATO allied armed forces, Teamwork-92, was in the Atlantic Ocean theater of military operations with an assault landing operation in northern Norway. Judge how things stand now with practice in training in foreign armies.

[Nekrylov] Recently, I talked to the commander of a submarine that had just returned from combat duty. In

his words, foreign submarines often "visit" our territorial waters. Without regard to the political aspect, doesn't this interfere with your engaging in scheduled combat training?

[Poroshin] It sure does. One would expect at any moment to collide with a foreign submarine. After all, the American submarine USS Baton Rouge collided with our submarine that was returning after practicing a combat training mission. Incidentally, despite the fact that the American commander was at fault in this incident, he did not bear any responsibility. Only our submarine commander was punished.

And there is another nuance here. When foreign submarines keep an eye on you and study your tactics and actions in certain situations, you do not always disclose and show what you are capable of doing. As a result, some drills are left undone. And this already is a negative in combat training.

[Nekrylov] The quality of combat training is largely determined by the condition of combat equipment. What can you tell us about the ships of the Northern Fleet?

[Poroshin] If you take our new nuclear-powered submarines, these are top-level ships, almost as good as the American submarines, and better according to certain parameters. Before, for example, we lost heavily due to the noise level of our submarines, in connection with which the range of detecting the enemy decreased. Now this shortcoming has been nearly eliminated. As confirmation of this, I will tell you that as an experiment, one of these submarines followed an American strategic missile-carrying submarine for several days without being detected. We also have good surface ships. These include the heavy aircraft-carrying cruiser Admiral of the Fleet of the Soviet Union Kuznetsov, guided-missile ships, and destroyers.

But this is today. What about tomorrow? We are very concerned about the future. The problem is that ships, like any other equipment, require constant care and timely repairs. And for this we need a modern repair base. We sort of have one. A strange situation has developed. Whereas before we did not have enough people to make the repairs, now we do not have enough funds. The people want to work, but we do not have the money for repairs. Not more than 50 percent of the ship repairs were done last year. And this not only resulted in a reduction in the number of sorties but also in a considerable number of combat training missions that were not practiced.

What is more, we simply may be deprived of some of the warships ahead of schedule. A sad example of that is the heavy aircraft-carrying cruiser Minsk. The most powerful ship, which is only 15 years old, has been towed to the graveyard of warships. And all because the enterprise where the cruiser was built and where it could be repaired ended up outside of Russia. Compare with the United States, where ships whose hulls were built back

during World War II are still in service. Is this really economically efficient? Ships should not die young.

How can we solve this problem? A conference of manufacturing managers was held recently in Severodvinsk at the Northern Machine Building Plant. It was planned to find the necessary funds to preserve the unique enterprise and to ensure all the conditions for repairing ships. This is gratifying, but we cannot solve the repair base problem by preserving one or two unique enterprises. We need a wide-scale governmental program put together based on scientific calculations, which would specify: how many, say, ships the Northern Fleet needs to have and what kind of support is needed to preserve their combat readiness. And give everything that is needed. A destitute fleet is not a fleet. It is a parody of one.

[Nekrylov] In the process of the end-of-training-period evaluation, many officers talked about the need for new approaches to organizing and conducting combat training. Invariably they emphasized that the training facilities in the Northern Fleet should be better, more complete. After all, this also means very much for normal combat training...

[Poroshin] There is no question, combat training must be conducted comprehensively: to an equal degree both on shore and at sea. To do this on a high level, the base must have a good training facilities: for example, simulators that simulate with a coefficient of 0.8-0.9 what is done on a ship and computers that create various battle scenarios. But we do not have them in sufficient numbers, and we do not have the money to buy them.

[Nekrylov] On what else, in your view, does the effectiveness of combat training depend?

[Poroshin] Now, as you know, national formations are being created in the republics that were part of the Soviet Union. We are receiving requests from the ministries of defense to release officers and warrant officers to serve in these national formations. Of course, this makes the already small collectives nervous and gives rise to unhealthy moods in relations among crew members. Certainly, this problem must be solved by political means at the governmental level. After all, according to the documents signed within the framework of the CIS member-states, the Navy is obligated to allocate some of the ships to the CIS Armed Forces. But who will serve on these ships, only Russians? This is unfair.

Then there are questions of logistic and everyday support. We have already partially touched upon this. Well, tell me, what frame of mind for combat training work will an officer or warrant officer have if he has left his family on shore without housing or the opportunity to eat normally? You see, it is not enough that prices are preposterous, the wages of our sailors are low, and many food products are simply not affordable; it still happens that they go for several months without being paid basic pay and allowances. How can you require a person to work at full capacity in such conditions? And the housing

problem in general today is especially acute. And in the future, when we will be manning our ships with volunteer sailors under contract, it will be even more acute. That is because you cannot lure a person to serve in the North with high wages alone (relatively high, of course). You also need to create normal conditions of daily life...

[Nekrylov] A sailor's duty is full of dangers. Are tasks for rescuing crews of ships that have suffered an accident practiced during combat training?

[Poroshin] After the Komsomolets submarine disaster, and this was a submarine of the Northern Fleet, we radically revised our attitude toward training crews for emergencies, including rescuing people. Thus, our aviators practice search and rescue of sailors in distress. They can fly to the disaster area (within range) and drop everything necessary for rescue, right up to motor boats. Ship crews are equipped with modern insulated suits and other rescue gear and are taught what to do in various crisis situations. But there are considerable difficulties here. The main one is money. Those same insulated suits, for example, are foreign-made. We must spend hard currency for them, and we almost do not have any.

[Nekrylov] An officer of the Navy Main Staff who participated in the end-of-training-period evaluation made the following remark in our conversation: "In the Northern Fleet, there are just as many difficulties as in other fleets. And the main one is that we do not have enough people." Is this really the case?

[Poroshin] Our personnel shortage is as much as 40 percent now. Due to this, the training process is often disrupted. You see, the amount of work that a sailor, petty officer, or officer must perform besides combat training is the same as before; no one has reduced it. And it often turns out that the lion's share of the duty time goes to guard duty and all sorts of administrative work. And sometimes crews go to sea without being sufficiently prepared. Something similar happened on the nuclear-powered attack submarine commanded by Captain 2d Rank V. Zakharov. Five days after starting to carry out combat duty tasks, the ship was forced to return to base. Why? Due to unprofessional actions of the crew, a storage battery caught fire.

I see one way out of this situation: we must immediately switch to manning crews on a contract basis. The fleet cannot survive without this, I believe. We have already begun such work. We have sailors who, having completed their compulsory term of service, remain on for extended service. However, we need a wide-scale program here that provides for concluding contracts with all categories of servicemen—sailors, petty officers, officers. Naturally, there also must be decent remuneration for difficult duty. Is it really normal that a truck driver in Severomorsk earns more than the commander of a nuclear-powered attack submarine? With our labor valued like that, not many young people will agree to conclude contracts with the naval department.

[Nekrylov] But, after all, the officers are serving, not leaving...

[Poroshin] Yes, there are still those who, as they say, still have the gleam in their eye and the desire to serve. But, unfortunately, some are leaving. And it is the trained, highly skilled personnel and specialists who are leaving.

[Nekrylov] Vasilii Alekseyevich, a final question. Has your directorate done everything for the Northern Fleet, despite the many difficulties, to engage in combat training?

[Poroshin] Well, it is not for me to judge this. The main thing we strove for in planning combat training for 1992 was to take into consideration to the maximum extent possible the consequences of unfavorable factors that were and could still arise. These include that same shortage of petroleum oils and lubricants and the impending discharge this spring immediately of two call-ups in connection with the change in the terms of compulsory service. Therefore, we were ready for many things. We were able to spread our forces so the crews of ships which go on combat duty were almost fully manned.

I will note again: above all, we must keep the ships...

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Fire To Support Amphibious Landing

93UM0544A Moscow VOYENNOY VESTNIK
in Russian No 2, Feb 93 pp 48-52

[Article by Col V. Smirnov: "Fire from Decks of Ships"]

[Text] The new draft Artillery Preparation Manual, unfortunately, does not contain a single word about the particular features of performing fire missions and preparing fire from the decks of moving ships during support of the landing of an assault force and close support fire for its operations on shore. However, the experience of the Great Patriotic War indicates that such a situation is possible. Consequently, it requires the elaboration of special tasks, rules, and procedure for their evaluation for training artillery subunits of naval infantry during peacetime.

Fire support of a landing begins with the arrival of the landing craft at the line from which the enemy can effectively bring pressure to bear with fire from the forwardmost edge of the defense (2-3 km) and continues until the assault forces seize the main enemy strong-points (first position) to a depth of 3-5 km and sometimes more.

Upon reaching the shore, the guns and antitank guided missiles [ATGM's] of the first wave of the assault force (forward detachment) open direct fire against targets impeding its advance (tanks, ATGM's, defensive fortifications, personnel and weapons at positions, and so forth). The guns mounted on the decks of amphibious warfare ships, on the approach to the landing points and

during the landing, engage primarily weapons firing against ships and also targets in the depth on call of ship posts operating as part of the landing subunits.

Close support fire of the operations of the landing subunits on shore is conducted the entire depth of the missions assigned them.

Artillery of the landing force delivers fire from indirect-fire positions at the call of commanders of the supported subunits. As the fire position area is occupied and the command and observation post is being deployed, command and control of the battalions and artillery of the naval infantry large unit (unit) is centralized.

The most important targets are engaged by battery fire and concentrated fire of battalions in close cooperation with naval infantry; when repelling enemy counterattacks, they are engaged by barrage fire combined with fire from antitank weapons of artillery and the landing force (tanks, ATGM's, grenade launchers).

To place artillery subunits on the assault landing craft makes sense in strict accordance with the landing force commander's decision for the combat operations. But under any variant it is important, in our view, to ensure three aspects during fighting for the landing.

First, delivery of direct (semidirect) fire against important targets immediately after landing of the forward subunits. This can be achieved, for example, by including batteries of self-propelled artillery, ATGM's, and mortars as part of the first wave of the assault proceeding on air-cushion vehicle landing craft.

Second, the possibility of firing guns directly from the decks of amphibious warfare ships during their movement toward shore. It is advisable to involve only self-propelled and rocket artillery capable of accomplishing fire missions without violating the deck superstructure and also of leaving the ship without additional unloading equipment.

For reconnaissance and adjustment of fire of the weapons of the amphibious warfare ships and artillery located on the decks, it seems to be quite justified to dispatch gunfire spotting teams (one per battalion) from ships or first-echelon subunits of the landing force, created from their authorized personnel strength. The approximate composition of each would be: the chief (officer), a scout-rangefinder operator, a scout, 1-2 radio-telephone operators, and appropriate reconnaissance, movement, and communications equipment (armored personnel vehicles, PAB-2A rangefinder, radio, plotting board for target designation and adjustment of fire).

Third, the possibility of delivering fire of artillery subunits (platoons, batteries) from the decks of large amphibious warfare ships and transports at an anchored fire position. This is helped, in particular, by the advance landing (in the first wave of the assault) of scouting parties and monitoring and orientation posts with equipment supporting topographic survey of artillery subunits

standing at the anchored fire position (on decks of large amphibious warfare ships and transports), deployment of the weather post, and compilation of a weather report based on the results of its observation.

The monitoring and orientation post is headed by the officer of an artillery battery or battalion and having a map with coordinates of spot heights. He organizes the work and conducts the work until all command vehicles of the artillery subunits of the assault force have landed. In individual cases, the post may also be used for monitoring the orientation of guns and observation instruments after occupying the battle formation. (For example, by simultaneously registering instruments against a heavenly body and by other methods.)

Here it is recommended to entrust the selection of the command and observation post (observation post) and artillery fire positions, their preparation and organization to artillery reconnaissance groups (ARG), whose composition and specific tasks are to be determined in advance by the artillery battalion commanders.

In connection with the lack of meteorological support in the amphibious assault landing area, when determining indirect-fire range and azimuth settings, equipment of army (division) meteorological stations will use primarily registration, shifting their registered positions, using data of registration pieces, and in individual cases rapid preparation of fire.

Organizing and procedure for accomplishing artillery fire mission from the decks of amphibious warfare ships.

Its quantitative and qualitative composition are governed largely by the capabilities of amphibious warfare ships to accommodate and secure guns on the deck and the methods of loading (unloading) them. Positioning artillery systems and command vehicles on the upper deck, for example, is realistic only if inter-deck accesses of the appropriate size and capacity are available.

The 2S9 gun with a 1V119 KMU [expansion not given] is more suitable than other for placement on the deck of a large amphibious warfare ship. In individual cases (when disembarking at port or when deploying the floating landing stage), the "Grad-1" multiple rocket launcher can also be accommodated here. The guns (combat vehicles [BM]) are set up along the port and starboard sides and secured by standard-issue devices for tanks. When the ship is underway, the guns situated along one side can be fired for effect from the deck simultaneously, and at the anchored fire position, all can fire for effect without exception.

The ship's captain controls the fire during movement, including the artillery of the assault force. In particular, he is obligated to indicate the time and area at which the artillery is to be ready to carry out the mission, the ship's heading and speed at which the fire will be delivered, and update the target area and, if necessary, the scheduled targets for engagement by the assault force's artillery.

The commander of the artillery subunit (batter commander or senior officer) directly supervises the firing of guns (BM) and platoons located on the deck of the amphibious warfare ship. When preparing firing, he clarifies the time and area of readiness of the artillery for carrying out the missions, the ship's heading and speed, the target area and the planned targets for engagement, the observation post deployment site, and organization of communications with the ship's captain and the guns.

It is equally important to coordinate with specialists the procedure for orienting the guns and instruments using shipboard equipment (sighting devices, their accuracy and position, intervisibility of the instruments and sighting device being oriented), and also for receiving weather data to compile weather for the established readiness time. The battery commander (senior officer) also must: plot on the map the firing and target areas; determine the base line of firing and the average height difference of the targets (target area) above the level of the gun park (height of the deck above sea level); compare the convergence of meridians for the given area with the data of the ship's navigator; based on the ship's heading, establish the firing sectors (auxiliary aiming points); after assessing the terrain, designate in advance the auxiliary aiming points (primary and alternate); and determine their coordinates with subsequent updating. In addition, 30 minutes before the ship reaches the firing area, it is necessary to deploy the observation post and organize orientation of guns and the rangefinder, prepare the fire direction device [PUO], calculate the weather and corrections for the selected charge and available shells.

Orienting guns on the base line when using the ship's sighting devices is done relative to its centerplane. When aiming the guns using an auxiliary aiming point on shore, there is no need for such orienting. In this case, it is more advisable to determine the grid azimuth to the aiming point and the target from the open-fire point.

Direct (indirect) fire by a gun (BM) or platoon is delivered at several open-fire points at the rate of one round (volley) per minute. The time for each round is determined using a stopwatch. The gunner aims the gun and tracks the target along the line of fire. The calculated range setting for the first round (volley) is established using the rangefinder, for which two fixes are made by the rangefinder at a rate of one minute. For the designated charge, the sight setting is fine-adjusted according to the range of the second fix, taking into account the calculated corrections for the firing conditions and the change in position during the one minute as a result of the ship's movement. The sight setting for the first round (volley) is calculated with reference to the open-fire point, for which its change with its sign is added to the sight setting determined according to the second fix. Subsequent settings are determined relative to the sight setting of the first round taking into account its change during the one minute and range corrections according to the first burst. The line of fire is adjusted according to general rules.

The command "Fire" is given 5-7 seconds before the designated time. The commander needs this warning to bring the levels to an average position as a result of pitching (in addition, for the BM crew to leave for shelter). Getting a fix on the target and burst is done throughout the firing. The change in the sight setting during the one minute due to movement of the ship is fine-adjusted, if necessary.

Fire for effect against an unobserved target is delivered by the platoon (BM) in controlled bursts of volley fire of two rounds per gun from the predicted open-fire points. Registration fire is conducted by 1-2 rounds from the base piece (BM). Corrections are input according to results of observations by the spotting team.

The optimum rate of registration fire and fire for effect is 180-240 seconds, which ensures laying of the guns before the ship approaches the predicted open-fire point. Its moment is determined using a stopwatch. To fine-adjust the initial settings for each of these points using a rangefinder, it is recommended to make three fixes of the aiming point on shore at a rate of one minute. According to the range and grid azimuth, changed by 30-00, the position of the ship at the time of each fix is plotted on the PUO, and then its heading is plotted according to the three points. According to the prediction interval, the position of the predicted open-fire points is entered, and the grid azimuth to the aiming point and the calculated grid azimuth, as well as the range to the target, are determined according to each. Next the deflection is calculated, the sight setting is found, and the command is given to the gun. Finally, having set the deflection on the panoramic sight, the aiming point is tracked with the traversing mechanism.

The correction according to the first round is computed on the PUO according to data from the spotting team for the first open-fire point and is input according to the second point without change. Corrections when firing for effect are determined by adding up the corrections for the first and second burst (volley) and taken into account throughout its duration for all open-fire points.

To carry out fire mission from the deck of a ship at an anchored fire position, at the moment of the landing of the assault force the battery commander (senior battery officer) makes a survey and orientation of the guns according to data from the monitoring and orientation post on shore. Later on, all this work is done just like on shore, guided by the Gunnery Regulations and Procedures and Artillery Fire Control.

We are proposing to establish for naval infantry artillery subunits the following fire missions:

Mission 1 m—engage targets observed from the deck of a moving ship by direct (semidirect) laying.

Target: motorized infantry squad (platoon) at a combat position (at a strongpoint), a mortar platoon at a fire position, an antitank gun, a slow-moving surface target, and so forth.

Target [mishen]: mockups of targets and individual artificial targets according to models of the Annex to the Training Manual, in accordance with the nature of the target, tactics, and standard organization of enemy subunits.

Determining firing data:

—by the method of rapid preparation of fire, taking into account corrections for deviation of its conditions from standard conditions. Determining distance to the target using a rangefinder.

Firing conditions:

—firing is done with high-explosive fragmentation rounds with the fuze set for penetration effect;

—the mission is carried out by a gun (combat vehicle) or platoon;

—range is from 4000 to 800 meters;

—settings are determined in advance in an organized manner, and the weather report is compiled based on the results of measurements of weather elements by ship equipment no earlier than 30 minutes prior to the start of firing;

—coordination with ship's captain is organized, reconnaissance assets (rangefinder) are deployed at the primary command post, communications are established with the gun, the gun (BM) and ammunition are prepared for firing, and the crews (gun crews) are at the guns;

—the ship's heading and speed are constant throughout the firing at no more than 22 km/hr, and the sea state is no more than 3 balls;

—the target is in the firing sector during movement of the ship. The guns (BM) to be involved in the firing relative to the side are indicated by the ship's captain when assigning the mission or in advance.

Expenditure of rounds: one round per gun for each open-fire point (BM or platoon fires in volleys at three points). The combat vehicle expends 2-4 rounds in each volley.

Evaluation of mission performance: time is estimated according to the number of volleys (rounds) missed. No misses is excellent; one volley (round) missed is good; and two volleys (rounds) missed is satisfactory. Regardless of the number of misses, three volleys (rounds) are made.

If the prediction interval exceeds two minutes for the first volley, the evaluation is unsatisfactory regardless of the number of misses.

Accuracy of fire is rated:

- when firing by a gun: excellent if the average range and line deviation norms are no less than 4.6; good for 3.6; and satisfactory for 2.6;
- when firing by a combat vehicle or platoon: excellent if the target is straddled by three volleys and the average points of the volley accuracy rating for the line of fire are at least 4.6; good if straddled by two volleys and the average points of the volley accuracy ratings for the line of fire are at least 3.6; satisfactory if straddled

by one volley and the average points of the volley accuracy ratings for the line of fire are at least 2.6; and unsatisfactory if the target was not straddled or the average points of the volley accuracy ratings for the line of fire was less than 2.7.

The norms of range and line of fire deviation for evaluating accuracy of fire are shown in Table 1.

The numerator gives rounds with TK [expansion not given], and the denominator rounds without TK.

Table 1

Type of Artillery	Deviations					
	Range, percent of D_{center}^{tgt}			Line of fire, mils		
	Rating					
	Excellent	Good	Satisfactory	Excellent	Good	Satisfactory
Tube artillery	1.5	3	4.5	7	15	20
Rocket artillery (medium-caliber, long-range)	2.5/3	5/6	7.5/9	15/20	30/40	45/60

The deviation of bursts (centers of volleys) from the center of the target is determined by a rangefinder at the primary command post, taking into account angular displacement of the ship during the flight time of the shell.

Mission 3 m—engage targets not observed from deck of moving ship with registration.

Target: battery (platoon) at fire position, radar station, command post, personnel and weapons, tanks and armored transport vehicles, antitank weapons at positions, and so forth.

Target [mishen]: mockups of targets.

Determining firing data: rapid preparation of fire. Registration using reconnaissance assets (rangefinder) of the spotting team.

Conditions of carrying out fire mission:

- firing is done with high-explosive fragmentation rounds with percussion fuze (for fragmentation effect, blast effect, or delayed action);
- the fire mission is carried out to suppression or destruction by a platoon or battery (rocket artillery launcher vehicle);
- coordination with ship's captain and spotting team is organized, reconnaissance assets (rangefinder) are deployed at the primary command post, communications are established with guns, the guns (BM) and ammunition are prepared for firing, and the crews (gun crews) are at the guns;
- range of fire is from maximum (maximum range of fix by reconnaissance assets of spotting team) to 2 km;

—settings are determined in advance in an organized manner, and the weather report is compiled based on the results of measurements of weather elements by ship equipment no earlier than 30 minutes prior to the start of firing;

—the ship's speed, like its heading, is constant during the firing and does not exceed 20 km/hr, and the sea state is no more than 3 balls;

—the target is in the firing sector during movement of the ship;

—the guns to be involved in the firing relative to the side are indicated by the ship's captain when assigning the mission or in advance.

Expenditure of rounds:

- for registration of tube artillery—two rounds; rocket artillery—three rounds;
- for checking accuracy of determining firing data—one round for each gun being used; four rounds for each open-fire point (platoon delivers it in volleys for three of these points) by the BM.

Evaluation of mission performance:

- in tube artillery, it is done according to the evaluation rules outlined in Mission 1 m. The deviation norms of volleys for evaluating the accuracy of fire are taken as equal (see Table 2).
- in rocket artillery, the time of performing the fire mission is rated according to the norms (see Table 3).

Table 2

Deviations	Rating		
	Excellent	Good	Satisfactory
Range, percent of D_{center_tgt}	1.5	2	3
Line of fire, mils	5	10	15

Table 3

Conditions	Rating		
	Excellent	Good	Satisfactory
Day and night	13 mins	14 mins	15 mins

Evaluation of accuracy is according to the results of deviations of a hit-scoring volley.

The deviation norms for evaluating the accuracy for medium-caliber long-range artillery are given in Table 4.

The numerator gives rounds with TK [expansion not given], and the denominator rounds without TK.

Table 4

Deviations	Rating		
	Excellent	Good	Satisfactory
Range, percent of D_{center_tgt}	1.5/2.5	2.5/4.5	3.5/6.5
Line of fire, mils	10/15	12/25	18/38

When organizing practice firing of artillery from decks of amphibious warfare ships, all questions of coordination must be coordinated in advance with their commanders and the gunnery officer and be included in the appropriate fire plan. The ship's captain (senior naval officer) will best handle the duties of director of joint artillery firing of the ship and artillery assets of the assault force against naval (coastal) targets. It is advisable to designate the battery commander of the naval infantry unit (large unit) as his assistant. During the preparatory period, he should also compile his private plan for conducting such firing. It usually reflects: the number of the mission and conditions of carrying it out, organization of command and control and the communications layout diagram, layout diagrams of artillery reconnaissance and fire control assets on the deck of the large amphibious warfare ship and also maneuvering of the ship (anchored fire position), the procedure for carrying out the mission and cooperation, and, finally, safety measures.

It remains only to say that the private plan of the assistant director is approved by the firing director and coordinated with the artillery commander of the naval infantry large unit and the gunnery officer of the large unit of amphibious assault forces.

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'Burun', 'Samum', 'Molniya' Small Missile Boats

93UM0552A Moscow KRASNAYA ZVEZDA in Russian
14 May 93 p 2

[Article by KRASNAYA ZVEZDA Correspondents Vitaliy Kostrichenko and Aleksandr Pilipchuk, under the rubric: "Arsenal": "A 'Bad Weather' Division"]

[Text] Construction of a large series of small missile boats (MRK) began in 1969 in Leningrad and later also in the Far East. The lead MRK, which was launched already a year later, received the name "Burya" [Storm]. The "meteorological" names that are being given to MRKs even in the future provided the grounds for the small boat crewmen to call their units "bad weather divisions" in jest. Production "circulation" of the missile boat-interceptor that is capable of destroying major surface targets proceeded at rapid rates. With time, 2nd series MRKs (head MRK "Burun" [Breaker]) with increased artillery weaponry began to enter the Navy. By the beginning of the 1990's, some of the small missile boats—"Burya", "Groza" [Thunderstorm], "Briz" [Sea Breeze] and "Shkval" [Squall]—had totally exhausted their service life and were written off. In 1987, the MRK "Musson" [Monsoon] was sunk in the Sea of Japan while towing a target after being hit by a training missile (KRASNAYA ZVEZDA wrote about that tragedy). The majority of the boats still continue service in all of Russia's fleets. The navies of India, Libya and Algeria acquired 10 small missile boats (the export version) from the former USSR.

In recent years, Russian designers have designed a small missile boat of a new type—a dual-hulled (catamaran) hovercraft ("Dergach" [corn crake] according to the NATO classification) for the interception and destruction of major surface targets. Foreign experts think that the Russians have defined the time: none of the world's navies have anything like it yet. The head MRK "Bora" [Bora] entered the Black Sea Fleet several years ago. The second hull (MRK "Samum" [Simoom]), which has been

designated for the Baltic Fleet, is undergoing performance tests in the Black Sea. The Russian Navy Main Shipbuilding Directorate reported to us that the issue on the fate of these boats must be resolved in strict compliance with the Yalta agreements.

Along with the development of small missile boats, the improvement of "Molniya" [Lightning] next generation native missile boats is continuing. The first RKA series was primarily designed for export deliveries to Bulgaria, Poland, the GDR [German Democratic Republic], India, Romania, Yemen and Iraq. After the reunification of Germany, U.S. experts received the opportunity to study "Molniya" which was delivered to America onboard a transport. An article appeared in the NEW YORK TIMES Weekly Review dated 26 May-8 June 1992 in which the first series "Molniya" was characterized as "one of the fastest and most lethal boats of that class in the world". The missile boat model that the Americans ended up with was not accepted into the Navy's inventory. Leningrad shipbuilders have set up production of second series "Molniya" RKAs. The third series "Molniya" with more powerful missile weaponry appeared in 1981.

Primary Tactical-Technical Specifications

	"Burun" Class MRK	"Samum" Class MRK	"Molniya" Class RKA
1. Standard displacement	approximately 600 tonnes	—	—
Total displacement	approximately 700 tonnes	750 tonnes	approximately 600 tonnes
2. Dimensions, (in meters)			
Greatest length	approximately 60	approximately 65	approximately 60
Greatest width	approximately 13	17	approximately 11
Average draft	approximately 3	more than 2	approximately 3
3. Full speed	36 knots (approximately 70 kph)	more than 40 knots (more than 70 kph)	approximately 40 knots (approximately 70 kph)
4. Crew	60 men	60 men	50 men
5. Weaponry:			
a) Strike:	missile system consisting of two three-canister launchers	missile system consisting of two quadruple launchers	missile system consisting of two twinned launchers
b) surface-to-air missile:	self-defense surface-to-air missile system consisting of one twinned launcher	self-defense surface-to-air missile system consisting of one twinned launcher	—

c) artillery	single-gun 76 mm automatic weapon—30 mm six-barrel automatic gun	single-gun 76 mm automatic weapon—two 30 mm six-barrel automatic guns	single-gun 76 mm automatic weapon—two 30 mm six-barrel automatic guns
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CIS: REAR SERVICES, SUPPORT ISSUES

Chief of CBR Troops Interviewed

93UM0540A Moscow VOYENNNY VESTNIK
in Russian No 2, Feb 93 (signed to press 22 Jan 93)
pp 8-11

[Interview with RKHB [Radiological, Chemical and Biological] Protection Troops Chief Colonel-General Stanislav Veniaminovich Petrov by Lieutenant-Colonel V. Mayatskiy: "What Do We Call You Now, Chief of the Regimental Chemical Service?"]

[Text] It has been six months now since the "News From the Directorate of the Chief of the Radiological, Chemical and Biological Protection Troops" has been appearing regularly in the pages of VOYENNNY VESTNIK. But that information has been accompanied by the emblem of the chemical troops. Readers are asking in letters whether that is a mistake. The editors asked the chief of the RKHB Chemical Protection Troops, Colonel-General S. Petrov, to clarify the situation.

[S.V. Petrov] The chemical troops have actually been renamed the Radiation, Chemical and Biological [RKHB] Protection Troops under the reforms being pursued in the armed forces of the Russian Federation. People associate the names "chemical troops and chemical service" with the use of chemical weapons. But that is not the case, after all. We were never given such tasks over the Soviet period.

Military chemists appeared in the Russian Army in World War I, and performed a purely defensive function. Non-standard chiefs of gas defense were introduced into the divisions, and teams for chemical and meteorological observation and warning of German gas attacks, as well as training of army personnel in the use of the simplest protective measures—a fabric strip and the Zelinskiy coal gas mask—into the regiments, starting in the summer of 1916.

Views on the substance and implementation of protective measures changed over time, as eloquently testified by the evolution of the terminology. Gas defense began to be called "chemical defense" starting in 1921, "chemical protection" in 1941 and "protection against weapons of mass destruction" in the beginning of the 1950s, when nuclear weapons were adopted into service by the United States and the USSR. Today it is "radiological, chemical and biological protection."

That is why the name of the troops should clearly reflect the tasks to which they are assigned. That principle has

long been the guiding one in others armies, by the way, for example the Bundeswehr.

[V. Mayatskiy] The directorate of the chief of the troops has also undergone an analogous "makeover..."

[S.V. Petrov] It traces its history back to the Chemical Committee of the Artillery Chief Directorate, converted into the Special Chemical Department in the summer of 1918. It was small in size—a chief with an assistant and an anti-gas team of 11 men. The Military Chemical Directorate of the RKKA [Workers' and Peasants' Red Army], promoted to a central one in 1932, supervised the combat and technical training of our troops, as well as the military-chemical training of army personnel.

With the start of the Great Patriotic War it was resubordinated directly to the Supreme Commander-in-Chief, and was renamed the Chief Military-Chemical Directorate of the Red Army. It returned to a peacetime footing, if one can call it that, in 1946 and began to be called the Directorate of the Chief of the Chemical Troops [UNKhV] of the Ground Forces. Its status was then raised to the UNKhV of the SA [Soviet Army], and in 1961 to the UNKhV of the MO [Ministry of Defense].

Its standard organizational structure was later altered repeatedly apropos of the tasks that arose. We were already actively engaged for several years, in particular, with the solution of problems connected with the destruction of stockpiles of chemical weapons "on a voluntary basis" in accordance with international agreements. There is a special subdivision today. Definite results can already be seen, even though it has not been functioning for very long.

[V. Mayatskiy] That means that the chief of the chemical service of the regiment will also have a new name?

[S.V. Petrov] Of course. Chief of RKhB protection. A great deal of work has been done to clarify the names of the military-educational institutions, units, subunits and positions. They will soon be confirmed.

[V. Mayatskiy] But "changing the scenery" is not the chief aim of reforming. Its substance, after all, goes much deeper...

[S.V. Petrov] We have been engaged continuously in improving the standard organizational structure of the RKhB protection troops, especially in their technical sophistication, but most intensively since the participation of the chemical-protection formations and units in cleaning up the consequences of the accident at the ChAES [Chernobyl Nuclear Power Plant].

The conclusion was drawn at that time that a war, even with the use of conventional weaponry, would lead to the broad-scale destruction of the facilities of modern industry, especially the nuclear and chemical industries. Extreme situations are possible, that is, similar to Chernobyl. Whence was formulated one excellent trait of our troops—a dual purpose. They can, in short, be used equally effectively both in peacetime and in wartime.

We see our chief task today in successfully integrating the upgraded RKhB protection system into the troop groupings being formed; ensuring the destruction of stockpiles of chemical weapons using ecologically clean and completely safe technologies by the stipulated deadline; and, finally, training cadres for the RKhB protection troops and maintaining combat training in accordance with peacetime standards in connection with the transition to contract service.

[V. Mayatskiy] The American model of corps—brigade—battalion, as is well known, has been taken as the foundation for the development of the Russian Army. How are the RKhB protection troops represented in that?

[S.V. Petrov] By formations and units for various purposes at the operational level—RKhB reconnaissance and RKhB protection, including brigades for eliminating the consequences of industrial accidents, aerosol camouflage and flamethrowers. Subunits with roughly the same functions are expected to be at the tactical level as well. Their standard organizational structure and numerical composition will of course be altered. That is conditioned first and foremost by the overall cutbacks in the armed forces.

[V. Mayatskiy] Can we expect the appearance of an RKhB protection officer in the battalion?

[S.V. Petrov] You pose an interesting question. We have studied foreign experience quite well, and feel that it would be entirely applicable to us as well. I will try to substantiate why.

Let's analyze what RKhB protection hardware is on hand in the battalion. Every serviceman has a gas mask, respirator, protective clothing, dosimeter, anti-chemical and gas decontamination kits and protective glasses. Combat and headquarters vehicles have a system of protection against weapons of mass destruction, instruments for radiation and chemical reconnaissance, a filtration and ventilation installation and a decontamination instrument, as do all wheeled vehicles as well. To this add the standard instruments for radiation and chemical reconnaissance, as well as the decontamination kits of the companies and batteries. How much does that turn out to be? Quite a bit, as it turns out. That gear is highly reliable, able to provide complete protection and preserve the fighting ability of the personnel in battle, even under conditions of the heaviest concentrations of chemical and radioactive substances or biological agents.

The paradox, however, is the fact that there is no one in the company or battalion who is qualified to teach the personnel their correct use and, even more important, to maintain that matériel in constant operational readiness. The problem of the systematic monitoring of its reliability, especially intensive monitoring in a combat situation, also remains an open one. The corresponding equipment (naturally, with supporting personnel) is necessary here, and is also lacking in the regiments. I would add that each battalion, at least in a motorized-rifle or

tank battalion, should have an officer who is a specialist in the realm of RKhB protection with engineer equipment, an assistant and a technical squad.

[V. Mayatskiy] The name of the RKhB protection troops has three components. While the first two are clear, biological protection is not quite so clear. You will agree that having shouldered such a responsibility, one cannot be limited just to "non-specific biological reconnaissance" and "disinfection," that is, to measures that the chemical troops used to perform...

[S.V. Petrov] Today we have a corresponding directorate with a network of scientific institutions. They, along with representatives of the General Staff, the branches of the armed forces and the medical service, are devising the optimal set of measures for biological protection in battle. Their proposals will be elaborated in a conceptual framework for the further development of our troops.

[V. Mayatskiy] Is an elucidation of the measures and tasks of chemical support, in particular the use of incendiaries by the RKhB protection troops, also planned? As I understand it, after all, they are directed today only toward the performance of protective functions.

[S.V. Petrov] The term "radiation, chemical and biological protection" is being instituted instead of the term "chemical support," and "chemical-technical support" will be called "technical support for RKhB protection." These and some other changes will be clarified in the new guiding and regulation documents.

As for incendiaries, it has taken shape historically that specialists and subunits of the chemical troops, by and large, have been engaged in both creation and the employment of flamethrowers. And it would not make sense today, when further prospects have appeared in the development of that type of weapon, to destroy or transfer to other subordination the scientific and production base that has taken shape.

[V. Mayatskiy] Stanislav Veniaminovich, could you clarify how two types of support with almost identical names—"protection against weapons of mass destruction" and "radiation, chemical and biological protection"—will co-exist?

[S.V. Petrov] There are many opinions on this score. Some propose combining protection against all types of weapons into a unified branch of combat support—"protection of the troops." Others want to leave it all unchanged. But let's look at this problem from a practical standpoint.

The corresponding services, with their own manpower and equipment, took shape long ago to perform the tasks of most types of combat support, and moreover with quite high efficiency. Many offices answer only for ZOMP [protection against weapons of mass destruction]. The services for RKhB protection, engineer, medical etc. are singled out by their own subunits in non-standard formations whose operations are controlled by

headquarters. I know from the experience of many operational-tactical exercises that it is, in fact, extremely difficult to perform the whole range of ZOMP functions using such an approach.

That is why I adhere to the opinion that protection against weapons of mass destruction as an independent branch of combat support would best be abolished, organizationally entrusting these or those of its functions to the headquarters and the corresponding services. RKhB protection should remain a full-fledged branch of combat support, within which the protection of the troops (manpower) against specific destructive factors of nuclear, chemical and biological weapons is accomplished.

Such changes would undoubtedly only assist matters. We have already made such an appeal to the Regulations Commission of the Ground Troops, and have found support.

[V. Mayatskiy] But then certain corrections would clearly also have to be made in the combat-training plans as well. The training of personnel in the subunits and units in ZOMP, after all, is by and large reduced to the use of RKhB protective gear. The inspections will be conducted by officers of the RKhB protection service, once again in accordance with a program approved by the chief of the RKhB protection troops?

[S.V. Petrov] I think we will be able to make everything conform to real life here as well.

[V. Mayatskiy] What can be expected that is new in training cadres for the RKhB protection troops—officers, warrant officers and junior specialists?

[S.V. Petrov] Ways of renewing the system of military education were considered recently at the All-Army Conference of higher educational institutions with the participation of the Minister of Defense of the RF. Our proposals were also taken into account there; the substance of them may be reduced to the following.

The training of officers for the primary positions for the branches of the armed forces and ministries of security and internal affairs, as well as Civil Defense, will be accomplished at schools of RKhB protection, the quantity and structure of which will be preserved. The Kostroma Command School, however, went to a five-year course of study starting last year. Cadets will also master, aside from the basics, a series of new specialties in command-engineer fields. The Tambov school will be moving to the same scheme starting with the next academic year.

The Saratov Engineer School is sending most of its graduates to the defense sectors of industry. The demand for them, by the way, is great. Specialists in the destruction of chemical weapons, whom we already need now, are also being trained on the basis of it.

We will be developing the academy as a scientific-methodological center for the training of highly qualified

officer personnel to take the higher positions in the RKhB protection service and troops, engineer-researchers in the realm of military chemistry and scientific fields allied with it, and instructors for other military higher educational institutions as well. A department for retraining and skills enhancement will also be created. A streamlined system for the continuous education of the officer corps of our troops is thus being structured.

I would like to note that every military-educational establishment for RKhB protection is unique to a certain extent. They have, after all, modern chemical-process and laboratory equipment and automated field sites. We are exerting a great deal of effort for the broad-scale computerization of the teaching process and raising the solidity of basic education. We are relying in the education of future officers on the traditions of Russian culture and resurrecting the forgotten experience of the Russian Army. Exhibitions of pictures of local artists are constantly underway at the schools, and the cadets are required to visit dance schools.

As for the warrant officers, NCOs and junior specialists, there is a training center for training them with a well-developed educational-materials base. We will clearly have to open another two or three regional centers, however, with the transition to contract service.

[V. Mayatskiy] How will the directorate and troops of RKhB protection interact with the army ecological structures, the corresponding civilian ministries and agencies and the RF Armed Forces Committee for States of Emergency?

[S.V. Petrov] Remember that the military chemists have taken part repeatedly in eliminating the consequences of accidents and ecological disasters before. Here are just some of the addresses—Chernobyl, Ionava and Yekaterinburg. Some formations of our troops, stationed in industrial areas, are on constant combat alert now.

And to the point, we are prepared for the closest contact. We have everything for it—a very powerful scientific-research base, military formations equipped with modern technical gear for ecological monitoring etc. With the ecological service of the armed forces of the Russian Federation, for example, we could begin collaboration with the training of cadres at the Saratov school and the academy under curricula that have already been developed.

[V. Mayatskiy] And a last question: your prediction concerning the results of the reforms being pursued?

[S.V. Petrov] I hope, and even more than that, am confident that the renewed services and troops for RKhB protection will successfully become a constituent element of the Russian Army that is being created, and will ensure the fulfillment of all of the tasks they face, both in peacetime and in wartime.

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From Ecology Directorate

93UM0540B Moscow VOYENNNY VESTNIK in
Russian No 2, Feb 93 (signed to press 22 Jan 93) p 21

[Unattributed article under rubric "News": "From the Directorate for Ecology and Special Protective Measures"]

[Text] Ecology has become an important element in national security for virtually all nations of the world. Russia is also very troubled by this global problem. The Supreme Soviet of the RF [Russian Federation] in December of 1991 adopted the Law "Protection of the Natural Environment," on the basis of which demands were raised sharply toward business and other activity that causes harm to the natural habitat. This pertains equally both to civilian organizations and to military units and institutions.

But the armed forces are seen as more than just a real source of danger to nature. Enormous scientific and technical potential is concentrated in the army that is able to accomplish ecological tasks of domestic significance on the scale of the whole country. That is why the Directorate of Ecology and Special Means of Protection has been created within the Ministry of Defense. Candidate of Technical Sciences Colonel S. Grigorov has been designated its chief.

What will this new subdivision of the Russian General Staff be engaged in? The draft "Conceptual Framework for the Ecological Support of the Armed Forces" notes that it will be organizing and coordinating the protection of personnel, armaments and military hardware against the effects of unfavorable man-made factors, as well as restoring natural balances that are disrupted as a result of the activity of troops. Priority will be given to preservation of the life and health of the person, the cleanliness of the natural habitat in peacetime and, in wartime, the performance of combat tasks with observance of the principle of "justified risk" and international legal norms, the scientifically substantiated combination of the quality of armaments, hardware and military facilities, on the one hand, and the economy and ecology, on the other, in the process of the organizational development of the armed forces of the RF.

The military ecologists see their principal task today as taking part in assessing the ecological damage caused by the presence of Russian troops on the territory of countries in the commonwealth and Eastern Europe, and conducting the fastest possible ecological logging of lands and facilities that belong to the Ministry of Defense. They will issue their expert conclusions on plans for combat training, track the fulfillment of legislation and standards in the realm of protecting the environment in the armed forces and bring to life a program for the comprehensive and continuous ecological indoctrination and education of servicemen, civilian employees and members of their families. They will monitor the destruction and salvaging of nuclear, chemical and conventional weapons.

A great deal has been done even though the directorate has only existed for a few months now. Directive No. D-37 of the RF Minister of Defense of 1 Nov 92, "Paramount Tasks in Ecological Support for the Armed Forces," has been promulgated and sent to the troops; a scientific and technical program of scientific-research and experimental-design work has been formulated; proposals have been developed for the structure of army

ecological bodies and the training of military ecologists; and, the creation of a system of ecological monitoring for the armed forces has been started and interaction with the Ministry for the Protection of the Environment and Natural Resources has been set up.

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UKRAINE

Morozov on Building Up of Forces, Status of Nuclear, Other Issues

93UM0578 Kiev NARODNA ARMIYA in Ukrainian
17 Apr 93 pp 1-2

[Article by Minister of Defense of Ukraine Colonel-General Kostyantyn Morozov: "We Are Confidently Taking the Path of Building a Modern Army"]

[Text] One hears more and more often of late that the armed forces of Ukraine exist virtually only on paper. Malevolent opponents have accused the young military of the independent state of all sorts of sins, not failing to include in this "mild, quiet" word the minister of defense, the leadership of the Ministry of Defense and all who are affiliated with this extraordinarily complex matter—the building of a national army. But the task placed on the shoulders of the soldiers in the Ukrainian armed forces is a difficult and crucial one—to preserve the peace and tranquillity of the people of independent Ukraine.

There are naturally many obstacles on the path to attaining the lofty qualities for the thorough accomplishment of this mission. And perhaps no one anywhere can get by without problems today. It is the same with the army. The principal problems, on the untangling and resolution of which intensive work is underway, are maintenance of control over the situation and prevention of a schism in the officer corps, the creation of the ground forces, the determination of their structure and size, the combination of the VPS [Air Forces] and the troops of the PPO [Air Defense] and the formation of the VMS [Navy]. Work is also continuing on a draft military doctrine for Ukraine and the establishment of ties between the Ministry of Defense of Ukraine and our neighbor countries in the CIS, Western Europe, the NATO countries and the whole world. Problems connected with the resolution of everyday situations, which are arising in connection with the uncertainty of issues surrounding the strategic forces and the Black Sea Fleet, are drawing away a great deal of effort. The cutbacks in conventional arms in accordance with quotas established by international agreements, the search for effective solutions to the social problems of the armed forces, and first of all housing, the organization and introduction of new forms of patriotic indoctrination for the soldiers, the introduction of the Ukrainian language, problems of personnel policy, manpower acquisition, military discipline—this is a far from complete list of the paramount tasks on whose resolution the future of the armed forces of Ukraine depends.

And it must not be forgotten that all of this is being pursued under the difficult conditions of psychological pressure on the part of certain circles, which has increased significantly of late. And were it not for the experience of the last year and a half and tempering

during service in the armed forces of Ukraine, I do not know who could withstand it.

One of the most important tasks entrusted to the Ministry of Defense remains the creation of battleworthy structures for the ground forces. Journalists in 1991 cited the figure that there were more than one and a half million servicemen stationed on the territory of Ukraine. The Moscow General Staff at the time did not want to give, or perhaps could not give, a true figure. We estimated for ourselves. That figure, counting all military formations on the territory of Ukraine, was 726,000 people as of 1 Jan 92. More than 100,000 servicemen were transferred across the borders of Ukraine or to units of the National Guard and Border Troops, with their removal from the composition of the armed forces. Some 17,000 people transferred into Ukraine. More than 100,000 soldiers, NCOs and officers were cut through re-organizations. The size of the armed forces of Ukraine as of January 1 of this year was thus 525,000 people.

The process of cutbacks in the military formations of Ukraine continues, as does the transfer of officers from outside the country—the Ministry of Defense continues to be occupied with this problem. As for the conscript servicemen, after the spring discharge into the reserves not a single soldier who is a citizen of Ukraine will be left outside the Ukraine in the "hot spots."

All of these great movements could not fail to tell on the formation of administrative bodies and their preparations for the fulfillment of their obligations in supervising the troops.

Work meanwhile continues to cut back conventional weapons in accordance with international agreements. And that is an exceedingly difficult task even under conditions of the stable operation of all structures of the armed forces. However, notwithstanding everything, we have to create those staffs, form those structures and establish their sizes so as to reduce the number of tanks by 2,300, armored combat vehicles by 2,400 and combat aircraft by 477. That explains why the tanks or these or those armored vehicles are being withdrawn from some formations. In the future we will have operational commands in place of the former military districts, and they will include army and mechanized corps, mechanized and tank divisions and brigades, regiments and battalions, educational centers and a system of troop training. The commander will have every means of armed struggle in his own sector, subordinate to him in peacetime and wartime, and will be responsible for their most effective employment.

It is especially necessary to dwell on questions of the **reform of military education**. This is, after all, a most sensitive sphere of the activity of our armed forces. This process affects in one way or another the interests of many thousands of people who are working in the sphere

of military education. The most contradictory and irreconcilable views are being expressed, both on the part of the authors or adherents of the concept of reform and on the part of their opponents.

I would like to point out, however, that if we are not counting on a return to the "unified and indivisible," thirty-four higher military schools with 12,000 graduates annually are rather too many for Ukraine. And that is one of the reasons that reforming military education is necessary. And reform is proceeding, based both on ideas from world experience and the system of education that is operating in Ukraine.

All of that work has unfortunately not yet been thoroughly studied, and all is still not understood or defined. And today, despite the overall certainty of the known conceptual approaches to reforming military education, the question of subordination of the educational institutions in general and the procedure for utilizing their scientific potential by the commanders and staffs of the branches of the armed forces—and, in particular, the procedure for supporting them, regulating the training process etc.—remains uncertain even for me as minister of defense. Specific features that pertain to questions of special training are also not entirely resolved. And there are many such specific features in every military profession, after all.

The decision has thus been made for additional study of these issues. An order has been signed under which a prestigious commission has been created, headed by a deputy minister of defense.

I think I would not be in error if I were to add to the list of paramount problems **the situation in our strategic forces and the attitude of Ukraine toward nuclear weapons.** This question is exceedingly important, and has politicized society both in Ukraine and beyond its borders. Many are interested in the attitude of the armed forces of Ukraine toward these issues. We feel that the fate of the nuclear weapons should be resolved by the legislative body of the state—the Supreme Soviet.

We see before us, however, a number of questions that are directly connected with this problem. First, regardless of the decision of the Supreme Soviet, nuclear weapons will exist in Ukraine for some time to come. Those weapons must be properly looked after, guarded and maintained over that period, however quickly we may reduce them.

Many questions are also arising on the fate of the servicemen in the strategic units. Those officers and warrant officers, along with soldiers who are citizens of Ukraine, have been working and living on our soil and under our sky for a long time. Most of them have now expressed a desire to continue to serve after the cutbacks in the strategic units, or to remain in permanent residence in Ukraine after their discharge into the reserves. And that points to the necessity of starting the taking of the oath of loyalty to Ukraine by the officers and warrant officers of the 43rd Missile Army. The legislative basis

for that exists. The Edict of the President of Ukraine of 5 Apr 92 provided for the administrative management of the strategic nuclear forces stationed in Ukraine by the Ministry of Defense of Ukraine.

People will need defense, and the state should protect them. But the process of taking the oath will have to be conducted without excessive haste and without any pressure whatsoever, but rather knowingly and perseveringly. This process need not be politicized. If anyone does not want to take the Ukrainian oath, let him serve in peace and eventually be transferred wherever he wants. We will not impede him, and will even help.

All of the soldiers and most of the officers and warrant officers in the strategic units, as in all of the armed forces of Ukraine, are natives and citizens of our state. There will be no questions there pertaining to the oath. Ukrainian officers outside the borders of the country will come in to replace those who have expressed a desire to be transferred to other states. That is how it will be, the more so as Ukraine has been financing the missile army since the end of 1992. Funds are being allocated not only for the maintenance of the special complement, but also for financing all of the social programs, and first and foremost the housing program. The question of financing technical and originator's oversight of the missile complexes and maintaining their secure status has been resolved. Without getting into the political name of the status of our state, we feel a great responsibility and see much work ahead of us for a long time.

As for Ukrainian citizenship, that issue was defined in the directive of the minister of defense of April 5 of this year. The directive establishes the mechanism for the personnel of the armed forces to receive a certificate with a notation of Ukrainian citizenship.

The Edict of the President of Ukraine on **the combination of the Air Forces and the Air Defense Troops** has provoked a great deal of discussion. Specialists know the difficult and contradictory conditions under which these two branches of the armed forces have developed for many years. The contradictory and uncertain nature of the system for managing the assets and their subordination in peacetime or during military exercises has been turned into genuine confrontation. That is what has happened in all armed conflicts where both branches were used in their prior form. They shot down considerably more of their own than the enemy's. The development of the means of action and the systems for command, control and supply had their own specific trends, and cost the state treasury a great deal. And they did it when the state, with its vast territory, was capable of such spending. But responsibility for air defense was placed on different formations. Some were protecting fixed state facilities and territory against air or space attack, while others were protecting military formations and facilities. And a contradiction appeared between the systems of command and control for the air defense of the ground troops and the air defense of targets in the front or army zone. Those contradictions were tripled as

well. The Air Forces, after all, were also operating in the very same zone, with the mission of covering the troops in concentration areas or during defense or attack. Enveloping all of that was the commanding general of the military front or army. How did it work out? There were many witnesses to the fact that it worked, unfortunately, very, very badly.

But aside from this there also existed the Air Forces and the PPO troops of the so-called military district in wartime—most often with poorly worked-out interaction, less experienced commanders and their own contradictions. This system was forced. They resorted to it out of necessity to perform the task of protecting a vast territory.

The situation has been radically altered today. Most of the Air Forces and PPO troops are operating on the same territory and in one expanse. Today it has been possible to concentrate all of the active means of defense of the airspace and even outer space into the same hands, placing responsibility for preventing aerial reconnaissance and strikes against targets on one command-and-control body. The development of a unified system for command-and-control, the ordering of hardware and weaponry, supply and support will undoubtedly provide an economic benefit to the state. Proceeding namely from that, the Supreme Soviet of Ukraine in December of 1991 approved the Law of Ukraine "The Armed Forces of Ukraine," which laid down the legal foundation for combining these two branches of the armed forces into one. In the law it has the name Air Forces (Airspace Defense Troops). The President of Ukraine, in realizing this law, issued an Edict combining the Air Forces and the Air Defense Troops into one branch of the armed forces and designating the commander of that branch. The mechanism for the fulfillment of the president's edict was laid down in an order of the minister of defense, which established that the formation of an operational group would take place in the first stage until September of 1993, and that it would be converted into the staff of the operational directorate by September 1994. That staff in the second stage would have to take command of the Air Forces of Ukraine. The responsibility for the airspace of Ukraine will be entrusted, at the same time, to the commander of the Air Forces. The completion of the combination of all levels of command is expected before 30 Nov 95.

So what interests of people or of the state have not been taken into account by that decision, as some feel? A unified command, unified system for training personnel etc. will provide an opportunity to cut back the troops while leaving them at a high level of battleworthiness. Specialists from both aviation and from the Air-Defense Troops are expected to be equally utilized at all command posts. The pressure on the Ministry of Defense—which has been artificially created by people who are not adherents of this combination, and supported by people not very experienced and not very competent on this problem—thus has no foundation whatsoever. I am

certain, and I would like all to understand, that the issue of combination is expedient, necessary and timely.

The Crimean/Black Sea problem. This merits particular attention, since whether Ukraine will be a maritime nation or not depends on its resolution. The question of the independence of the Black Sea Fleet has a long history for our young nation. The conceptual framework for the defense of Ukraine envisages the creation of the Ukrainian Navy on the basis of the forces of the Black Sea Fleet [ChF]. We emphasized at once that we had no claims to the whole fleet. And our approaches have been fair. At Dagomys we agreed to interact in creating two formations based on the ChF, the Russian Navy and the Ukrainian Navy. That is the same approach that was inherent in the Yalta agreement. It would seem understandable to all that Ukraine would make an act of good will for the peace of our citizens, and the President has signed that agreement, hoping for an understanding and resolution of problems on mutually advantageous principles over three years. But history will perhaps be repeated, and we will have to learn from our own mistakes once more. What has been achieved over this time? The negotiations of the state delegations on the realization of the Yalta principles have been brought to a dead end namely through the artificial misunderstanding of those principles by the Russians. The constant interference in the supervision of the fleet on the part of the high command of the Russian Navy is in fact removing the ChF from the supervision of the two presidents. The use of ships on which Ukrainian citizens are serving in the region of the armed conflict between Georgia and Abkhazia has been organized through orders from Moscow. That is a *de facto* violation of international law.

The Russians moreover view the transitional period that was stipulated for the division as a period of moratorium on the division of everything, even those things that are ready for it. And that is not without its benefit for our neighbor—the shutdown and preparation for removal across the borders of Ukraine of military hardware, the taking of fuels and lubricants, the sale to commercial structures of land, structures and equipment, the supply of units based outside the borders of Ukraine with our materials and the plundering of state funds, when by unilateral decision the money from other line items of the estimates of the Ministry of Defense are transferred to the upkeep of the personnel. Twice this year, after all, the personnel of the ChF have been paid a payment above and beyond the rate scales of the Russian Army and with a *karbovanets* factor to the ruble. Officers are being relieved of posts for loyalty to state policy and do not have the opportunity to complete service in their fields, while cadets cannot complete their internship periods. This is a far from full list of the issues that typify the situation of confrontation in the ChF. They are all playing against the benefit of Ukraine. What is more, discussions have even been halted recently on the transfer of officers from the fleet to the Ukrainian Navy.

Proceeding from this complex situation, we have concluded that something of a review, something of an

abrogation, is needed today, that people must be protected, funds must be preserved, the situation must be rectified and we must move to concrete steps in the organization of our naval forces. Only the question of dividing up the combat vessels can await some decision. As for the land and infrastructure, they must be subordinated to Ukraine and an agreement proposed for their temporary utilization. As for the military administration, it has to be Ukrainian on Ukrainian soil at all garrisons, so that citizens of Ukraine in the fleet and in the units feel protected. We have candidates for the posts of chiefs of the garrisons at Donuzlav, Feodosiya, Kerch, Ochakov, Izmayil and Balaklava. The minister of defense has already issued the order for their assignment to the troops.

It is time to halt the direct financing of construction, especially for the Black Sea Fleet, and it must be concentrated in the hands of the Navy. That decision has also been made, and the corresponding document has been sent to the Ukrainian Navy command. All of these decisions, by the way, are now being made for the second time. These issues would have been resolved long ago if those who were supposed to had fulfilled the order of the minister of defense that was issued in 1992.

An order has been issued on the opening of additional staffs and other complements for the possibility of assigning as many more officers as possible who do not have positions in the Navy. A draft decree of the Cabinet of Ministers of Ukraine has also been prepared, obligating the local administrations to allocate space in hotels to military units to accommodate the families of officers. It is expected to be paid for out of the state budget. This pertains to all the branches of the armed forces of Ukraine, and not only the Navy.

I believe in our fleet and that we will build it, whatever the cost may be to us. Our shipyards are operating conscientiously, and more and more new vessels are coming off the slips. I have been there and talked with the people. The officers will still have to work a great deal to see that our boys feel themselves at home, in their own army, on their own land or on their own water.

The President of Ukraine has made the decision to finance only the needs of Black Sea Fleet units that are stationed in Ukraine—that is, 50 percent—and it has already been organized by the orders of the minister of defense, starting in the middle of April. Directives have been issued at the same time for one-time financial assistance to the servicemen of the Ukrainian Navy in the amount of their salaries, along with a halt to the financing of the newspaper FLAG RODINY.

As a patriot of Ukraine, I feel that in the event of the refusal of the Russians to consider as a package the issues of the division of the ship inventory and the withdrawal of its non-Ukrainian portion from Sevastopol in the negotiations pertaining to the division of the ChF, it would be expedient to pose the question of the withdrawal of the Black Sea Fleet altogether, rather than

leaving it on the territory of our state. I have no idea of the terms under which Kharkiv or Sumy, Luhansk or Sevastopol can be given over to another state.

The topic of **patriotic indoctrination and military discipline** should be discussed in particular. We are, after all, facing an exceptionally important task today—the indoctrination of the Ukrainian soldier. A new person, if you will, with a new consciousness and understanding of the necessity of protecting his Fatherland, the land of his fathers, our Ukraine. Everyone must realize what it is we have to protect and what Ukraine is for us. And we should learn this ourselves and teach our subordinates. This is the fatherland of all the people whose fate is connected with Ukrainian land, its traditions, its aspirations to the heights of social and economic development. A country that values and constitutionally protects the equal rights of all citizens. And we are summoned by this idea to reinforce and defend it if the need arises.

One and the same things are unfortunately treated differently during our difficult times. How can they be defined correctly?

One cannot get by here without **patriotism**. And just what is patriotism? It is not the achievement of the formal independence of the state, it is the perception of the fate of the nation as one's own, experiencing its losses as one's own. And we officers have a most crucial task—arousing those qualities in our subordinates. When and how is this done? All the time, beginning with school. And thus I cannot agree with the proposals not to conduct pre-conscription training in the schools, as are being heard today in the Supreme Soviet. It should, on the contrary, be permeated with newer and newer forms, and encourage officers and the youth to take part in it. A museum of soldiery must be organized, along with exhibits that tirelessly acquaint the youth with the history of Ukraine and the history of its defense. The best impressions of the honorable duty of its sons—fighting for the Fatherland—must be instilled. To this could be added the efforts of those officers and patriots of Ukraine who were unfortunately not able to serve in the Ukrainian Army and who, now in the reserves, have great experience. The result of this work will be not only a national awareness of the military obligations of its citizens, but also the foundation for overall discipline in the military.

Today many cases of the commission of crimes in the army or instances of death or grave injury of servicemen are not owing to the infamous lack of control of the personnel, but rather the heartlessness of indifferent people, on the one hand, and the lack of protections for soldiers, on the other. Indifferent people in supervisory positions, of course, even in low positions, are not patriots of their country. And those who are tormenting those like themselves are also not patriots. The situation with the existence of the so-called “hazing” [*divishchyna*], now already in the Ukrainian Army, testifies to the fact that it is not enough simply to transfer the citizens from other states over the border; people must

be taught. And that can be done by the whole state system. Exclusively honest and decent people, patriots of their state and specialists in their fields, will have to be enlisted in this work in the ranks. The certification commission is called upon to investigate before a person is recommended for a supervisory position. We are often accused of having a very zealous approach to the selection of candidates for these or those positions. And we will entrust the most crucial matter of educating the soldiers of the Ukrainian Army to the officers with ardent patriotic convictions who are devoted to the ideas of the national independence of Ukraine in the future as well. For it is only thanks to such approaches that we can expect that the problems of education will be resolved in the interests of Ukraine.

One important step in educating the patriots is the decision to institute the Ukrainian language in the army. The corresponding directive has been issued by the minister of defense. This is not a forced Ukrainization. The army is a state structure, one of its main constituent parts and a feature of its existence. The army is called upon to implement an independent military policy, which is an important constituent element of state policy and a guarantee of the existence of the state. Only the armed forces—whose composition includes the sons and daughters of that state, those who are united with its people and feel Ukraine to be their Fatherland and no other—are able to protect the land of their fathers, the integrity of the territory and inviolability of the borders.

That is namely why the **personnel policies** from the very first days of the organizational development of the armed forces of Ukraine have been founded on the principles of citizenship. Only citizenship, without ethnic traits. Candidates for a position are considered in collegial fashion at sessions of the certification commissions at all levels right up to the highest. The commissions decide the fate of people, and thus their composition has to be only decent people and the methods of their work should be namely thus—exclusively decent.

Frankly speaking, not everything has turned out the way we would have liked. Many mistakes have already been made, and many unfortunately still lie ahead. But the chief principle—citizenship—along with some no less important principles in the selection of personnel, are the foundation of our personnel policies. Among those principles are a high level of professional qualities, patriotism and devotion to the ideas of the state independence of Ukraine and better personal qualities. It is namely those that should lie at the foundation of work in the selection and placement of personnel. And those who are working with people and who are selecting and educating those people should meet these requirements first and foremost.

We have most regrettably not been able to avert certain negative phenomena even at the highest level, at the Personnel Directorate of the Ministry of Defense. Bribery and corruption have existed in those structures. Some young officers, and even colonels, have brought

such moral harm to the armed forces, the Ministry of Defense and personnel policies by their actions that it will not soon be possible to make up for them. But we have decided not to conceal these shortcomings of ours, however shameful they may be. An order has been issued by the minister of defense, and the materials on this matter have been sent on to the procuracy. Those who are guilty of crimes have been stripped of their military ranks, and they have been discharged from the ranks of our armed forces. Ministry of Defense Personnel Directorate Chief Lieutenant-General O. Ihnatenko has been relieved of his official duties for shortsightedness and mistakes made in the selection of specialists to work in personnel bodies. He has been offered other work.

Many questions are arising of late connected with the supervisory personnel of the armed forces of Ukraine. I will mention, so that there be no superfluous discussion, that Colonel-General V. Sobkov is handling his duties as commanding general of the PrykVO [Carpathian Military District] very well, and Lieutenant-General V. Stepanov has been assigned to a post with less work; he is now deputy commander of the OdVO [Odessa Military District] for questions of reformation. Lieutenant-General I. Oliynyk has been removed from his duties as chief of the Armaments Directorate of the armed forces of Ukraine for rules violations. When the appropriate specialists ultimately investigate those violations, the decision will be made on how to resolve the fate of that general.

Colonel-General A. Lopata has been named to the post of chief of the Main Staff of the armed forces of Ukraine and first deputy minister of defense by Edict of the President of Ukraine, which leaves vacant the posts of deputy minister of defense and deputy commanders of the OdVO, PrykVO and some command positions in the armies, divisions and military educational institutions. The candidates are being selected, their qualities are being studied and some are already being prepared for selection. We are making every effort to begin our own, Ukrainian system for training personnel for the command corps as soon as possible, including at the level of the Armed Forces Academy of Ukraine. But there are also many problems here, as in other areas. The painstaking work of all to whom it is entrusted is required here.

It would be incorrect not to dwell on the **conditions** in which the Ministry of Defense of Ukraine and its minister have been working over the last six months. The epithets complex and difficult do not depict to the full extent the situation that has taken shape. All twenty months of the work of the Ministry of Defense have been difficult for us all and for me in particular, but what started in October of last year cannot be called other than psychological pressure. What are the reasons for the assault? Who are its originators and what do they want?

The reasons, in my opinion, are in our selfless idea of the independence and territorial integrity of the Ukrainian state. And also in the fact that we are abolishing some

"privileges" and waging a merciless fight against corruption and abuses. The originators of this pressure are the adherents and executors of the order to return Ukraine to slavery, or the division of its territory. They are trying, through their provocative statements and appeals, to politicize the atmosphere in the military. All of this is working to support those forces that in word are passionately for the people, but in fact are trying to return to the times of rigid totalitarianism.

So then who is politicizing the army, anyway? The socio-psychological service, whose conceptual model is based on the foundations of the law as approved by the Commission of the Supreme Soviet and approved by the minister of defense, and which is occupied with the patriotic education of the defenders of their Fatherland? Or those who are not suited by that, who are trying to deceive the people again and, if not immediately, then in the future will without fail drag them into the empire and teach those "independence" people a lesson? It is namely because I did not take their position that their attitude toward me changed in October. But I have contacts with everyone, openly and candidly taking part in the consideration of all of our problems. The responsibility for the matter entrusted to me has not lessened. So we are proceeding with confidence on the path of building a reliable army able to protect our independence. We rely in our work on those who wish happiness to our people, who yearn for the real independence of Ukraine.

And I thus duly noted the results of the polling that was conducted by the Institute of Sociology of the Academy of Sciences of Ukraine, in the course of which people said that they trust the armed forces of Ukraine. Although that is, of course, an advance. And a significant advance. This is a credit of trust of the people in their national military. And we thus shall and always will, today and always, justify that great trust.

Progress Forming National Army Assessed

93UM0616A Moscow ROSSIYA in Russian No 24,
9-15 Jun 93 p 4

[Article by Vladimir Kolinko under the rubric "The CIS Armies": "A Military Field Novel in Ukrainian"]

[Text] Kiev—The day of 24 August 1991 could without exaggeration be called an historic date for the Ukrainian parliament. The passage of a decree at that time on the subordination of all military formations located on the republic's territory to it and on the establishment of its own Ministry of Defense essentially signaled the birth of the Ukraine's armed forces.

Two months later Colonel-General Konstantin Morozov, named as military minister, submitted to the parliament a package of laws on the republic's defense and its army. They were passed.

More than a year and a half has passed since that day. It is time to tote up the initial results. They are the following. There is an army and there are laws regulating

its further development, but the main thing, a military doctrine, is missing. It has not yet come into being. Why not?

The plan of the Ministry of Defense defined as its main missions the prevention of war and, in case one should break out, the effective repulsion of aggression. For this purpose the armed forces were to consist of ground, naval and air forces and a grouping of missile and space troops. The plan also affirmed the political course previously approved by the parliament: a Ukraine outside of blocs and subsequently, a neutral, nonnuclear power. The latter definition, "a nonnuclear power," unexpectedly became a stumbling block, however, and the doctrine was killed by the armed forces....

What was clear as day to General Morozov, that there was neither the strategic basis nor the economic capabilities to proclaim the republic a nuclear power, evoked unmitigated annoyance in a considerable part of the deputies. They contend that Ukraine cannot protect itself without a nuclear umbrella. And not so much against the West. "Russia is considered a friendly nation," Deputy M. Porovskiy says as justification for this opinion. "But we must not take lightly the fact that the development of political events could bring people like Zhirinovskiy or Baburin to power in the Russian Federation...."

But why can Ukraine, which possesses the largest and best outfitted army in Europe (after Russia), not get by without a nuclear umbrella? Opponents of the "Morozov Doctrine" have given various arguments in response to this reasonable question. They have pointed out, for example, that the Western allies, using high-precision ammunition in Operation Desert Storm (7 percent of the total amount used), destroyed 90 percent of all their Iraqi targets with it. Ukraine does not have such weapons, just as it has no space communication, intelligence or navigation facilities. And this means that only its nuclear missiles constitute the most effective force for restraining a potential aggressor. And so it was proposed—in the interest of national security, of course—that the START-1 Treaty not be ratified in the near future. It must be explained to the entire world that the republic has an obligation to see to its own security and will become nonnuclear in the future, disarming commensurably with the other nuclear states....

The deputies spotted a large number of "strategic flaws" in the ministry's concept. Both practical (the Ministry of Defense's decisions to take the aviation out of the air defense system and to eliminate the integrated system of military education) and theoretical (the fact that the military doctrine does not specifically identify the potential enemy, and the basing of the degree of armament and the numerical strength upon the corresponding features of a possible aggressor).

In short, the draft document was sent back for final touches. This in no way affected the process of developing the Ukrainian armed forces, however. It is proceeding. Not without difficulties, of course.

In the opinion of many military specialists, for example, the army's combat readiness is weak, extremely weak. And contrary to the minister's information, much remains unclear regarding its numerical strength. For example, he put it at 525,000 men as of 1 April of this year. According to a number of experts, the figure should be increased by at least 100,000.

Be that as it may, the army is a heavy burden on the national economy. And the fact that it is planned to reduce the army's size to 450,000 in a year and a half and to 250,000 by the year 2000 has to be making Deputy Premier Viktor Pinzenik, who oversees the republic's economy, happy....

Tanks continue to make up the main strike force of the ground forces. The pool exceeds 6,000 units, although under international agreements Ukraine is authorized to have only 4,080. An even more drastic cut is planned—down to 2,800 tanks. It is the opinion of the combat commanders, however, that such conversion decisions should be carefully weighed, and the modern machines should not be destroyed but sold abroad, following Russia's example.

The air force is to be cut to 447 combat aircraft. And then, the Ukrainian aviation is already in an extremely difficult situation. The inactive logistics infrastructure, unique network of alternate airfields, depots and production lines are rapidly becoming obsolete and technically outdated. Pilots in the Uzin Long-Range Air Division told us that last year they received fuel literally for only a couple of combat sorties. And no improvements are foreseen yet, particularly in view of the May increase in the price of Russian oil.

This fact is becoming a major argument for those who advocate preserving Ukraine's nuclear umbrella, and this amounts to 2,500 warheads. The number of Kiev residents who want to keep the nuclear weapons has doubled since May 1992, reaching 36 percent.

Unlike other commonwealth states, it would appear that Ukraine was lucky with respect to its military-industrial facilities. The republic's VPK [military-industrial complex], second largest after Russia's, includes 1,300 enterprises employing more than 2 million people. Only a few of them have a complete production cycle, however, while the rest are "tied" to the CIS. For example, the Kharkov Tank Plant alone receives parts and assemblies from 973 "non-Ukrainian" enterprises.

"We have a large scientific and production base," Konstantin Morozov comments. "We still have to set up closed cycles, though, and a number of ministries are presently engaged in this. We unquestionably have to use the ties which existed in the USSR's VPK. Particularly with Russia. This does not rule out a search for new partners, however. In Europe, for example, which would enable us to preserve our production capability and provide jobs for highly skilled workers. Agreements have already been concluded with the ministries of defense of Poland, the Czech Republic, Slovakia, Hungary and

Bulgaria. Talks are underway on certain models of military equipment with agents of such leading Western companies as Thomson, Aerospatiale, SAT and many others.

And so, the Ukrainian army is essentially getting the same schooling as Russia's army. Ukraine's Ministry of Defense recently considered versions of a new uniform. It will be very different from the present, Soviet uniform. It will soon be submitted for approval by the Defense Council, headed by President Leonid Kravchuk. The new military uniform is expected to be introduced in 1995.

CENTRAL ASIAN STATES

Kazakhstan: Law on Universal Military Obligation

93UM0576A Almaty *VECHERNAYA ALMA-ATA*
in Russian 10 Mar 93 pp 2-3

[Law of the Republic of Kazakhstan signed by Republic of Kazakhstan President N. Nazarbayev, 19 January 1993, in Almaty: "Law of the Republic of Kazakhstan 'On Universal Military Obligation and Military Service'"]

[Text]

Section I

General Provisions

Article 1. Universal Military Obligation

1. Defense of the Republic of Kazakhstan from armed aggression is among the state's most important functions and is a matter of all of the people of Kazakhstan. Defense of the Republic of Kazakhstan—is a Republic of Kazakhstan citizen's duty, regardless of nationality or social origin, place of residence, property or job position, race, language, education, attitude toward religion, sex or nature of occupation, political or other convictions, or affiliation with public organizations or associations.

2. Universal military obligation is established by the Republic of Kazakhstan Constitution to provide manning for the Republic of Kazakhstan Armed Forces and also to train the population to defend the republic.

Universal military obligation consists of:

- training citizens for military service;
- registration with conscription registration districts;
- conscription for military service;
- performance of military service;
- service in the reserve;
- performance of training assemblies in the reserve; and,

—mandatory universal military training of citizens in wartime.

3. Republic of Kazakhstan citizens, central government authorities, local government authorities, educational institutions, public associations, enterprises, institutions and organizations, regardless of subordination or form of ownership are tasked with carrying out this Law.

The following citizens are exempt from military obligation:

—males under 16 years of age or over 50 years of age; and,

—females under 18 years of age or over 40 years of age.

Universal military obligation does not extend to foreign citizens or individuals without citizenship who are permanently or temporarily residing on the territory of the Republic of Kazakhstan.

4. Republic of Kazakhstan citizens are subdivided into categories with regard to universal military obligation:

—preinductees—young people from 16 to 18 years of age;

—conscripts—young people from 18-27 years of age who have registered with conscription registration districts;

—servicemen—citizens who are performing military service;

—military reservists—citizens who are in the reserve; and,

—persons without a military obligation—citizens who have not been accepted into the military register or who have been removed from it.

5. Republic of Kazakhstan citizens who are fit to perform military service based upon their state of health and age are obliged to:

—be placed on the military register of conscripts upon reaching the age established by this Law;

—appear based upon a military commissariat's summons for registration with a conscription registration district, to undergo a medical examination, to be sent for training to obtain a military specialty, and to be called up for military service or for assemblies;

—undergo training for military service or military service and to fulfill their military obligation in the reserve; and,

—carry out military registration regulations.

6. Women who have a specialty that is related to an appropriate military specialty based upon the list defined by the Republic of Kazakhstan government must be placed on the military register.

In peacetime, women can voluntarily enter military service on contract. In wartime, individuals of the female sex who are on the military register or who have undergone universal military training can be called up for military service based upon a decision of the President of the Republic of Kazakhstan.

Article 2. Military Service

1. Military service is a special form of state service of Republic of Kazakhstan citizens that is associated with the fulfillment of their duty to the state and to the people in the Republic of Kazakhstan Armed Forces.

Military service time is calculated in the total uninterrupted length of service and also in the length of service for a specialty. The types of military service are:

—compulsory military service of soldiers and sailors, sergeants and petty officers;

—military service on contract in the positions of soldiers and sailors, sergeants and petty officers;

—military service of women on contract in the positions of soldiers, sailors, sergeants and petty officers, army and naval warrant officers and officers;

—military service of cadets (students) of military educational institutions;

—military service of army and naval warrant officers; and,

—military service of officers.

2. Military service of Republic of Kazakhstan citizens in the ranks of the armed forces and military formations that have been created with other states for joint defense from aggression is defined by the appropriate international treaties.

3. Citizens of the Republic of Kazakhstan, who have been drafted or who have voluntarily entered military service for the first time, take the military oath of allegiance to the people of Kazakhstan.

Persons with a military obligation who have previously not taken the military oath take it during assemblies or mobilization.

The text of the military oath is approved by the Republic of Kazakhstan Supreme Soviet.

Article 3. Manning the Republic of Kazakhstan Armed Forces With Servicemen

The Republic of Kazakhstan Armed Forces are manned with servicemen based on a combination of extra-territorial and territorial principles.

The procedures for manning the Republic of Kazakhstan Armed Forces with servicemen are determined by the Republic of Kazakhstan government.

A military-trained reserve of military reservists is being created to bring the Republic of Kazakhstan Armed Forces up to prescribed manning levels during mobilization and wartime.

Article 4. The Composition of Servicemen and Military Reservists

Servicemen and military reservists are subdivided into rank and file servicemen, sergeants and petty officers, army and naval warrant officers and officers.

Officers are divided into junior, senior and flag officers.

Article 5. Military Ranks

1. The following military ranks are established in the Republic of Kazakhstan Armed Forces:

Ground Forces Military Ranks	Navy Unit Ranks
SOLDIERS AND SEAMEN	
private	seaman, private
private first class	senior seaman, private first class
SERGEANTS AND PETTY OFFICERS	
junior sergeant	petty officer second class, junior sergeant
sergeant	petty officer first class, sergeant
senior sergeant	chief petty officer, senior sergeant
master sergeant	master chief petty officer, master sergeant
ARMY AND NAVAL WARRANT OFFICERS	
army warrant officer	naval warrant officer
army senior warrant officer	naval senior warrant officer
JUNIOR OFFICERS	
junior lieutenant	junior lieutenant
lieutenant	lieutenant
senior lieutenant	senior lieutenant
captain	captain-lieutenant, captain
SENIOR OFFICERS	
major	captain 3rd rank, major
lieutenant colonel	captain 2nd rank, lieutenant colonel
colonel	captain 1st rank, colonel
FLAG OFFICERS	
major-general	rear admiral, major-general
lieutenant-general	vice admiral, lieutenant-general
colonel-general	admiral, colonel-general
general of the army	
marshal of the Republic of Kazakhstan	

2. The words "of the medical service" or "of justice", accordingly, are added to the military ranks of officers who have medical or legal military registration specialties.

Distinctive guards ranks are established by adding the word "guards" before the appropriate military rank for servicemen who are performing service in guards units or on guards ships.

The word "reserve" is added to the military ranks of citizens who are in the reserve and the word "retired" is added to the ranks of citizens who are retired.

3. The military ranks of flag officers are awarded by the Republic of Kazakhstan President. The rights of officials to award military ranks to the remaining servicemen are established by the statute on performance of military service by officers of the Republic of Kazakhstan Armed Forces.

Article 6. Military Positions

1. Military positions (authorized positions that are subject to being filled by servicemen) and the military ranks that correspond to them are provided for in the authorized manning levels of military units, ships, government agencies, institutions and military educational institutions.

The list of positions that are subject to being filled by flag officers is approved by the Republic of Kazakhstan President and the positions of other servicemen—by the Republic of Kazakhstan minister of defense, the Committee for National Security chairman, the commanders of the internal troops and the republic guard, and the Republic of Kazakhstan Procurator General.

The list of positions of servicemen of the organs of military justice and the military procuracy that are subject to being filled by officers is approved by the Republic of Kazakhstan Supreme Soviet Presidium.

2. Military ranks are subdivided into:

- rank and file positions;
- sergeant and petty officer positions;
- army and naval warrant officer positions; and,
- officer positions.

3. Appointments to positions that are subject to being filled by flag officers (commanders of army, divisions and their equivalents, ranking personnel of the Republic of Kazakhstan Armed Forces) is carried out by the Republic of Kazakhstan President.

The rights of officials with regard to the procedures for assignment to other military positions are defined by the Republic of Kazakhstan minister of defense, the Committee for National Security chairman, the commanders of the internal troops and the republic guard, and the Republic of Kazakhstan Procurator General.

4. Servicemen, with their concurrence, can be assigned to state government agencies, ministries and departments to carry out work of a defense nature with retention on active military service based upon the decisions of the Republic of Kazakhstan government.

Servicemen are released from fulfilling their official duties as a result of their election:

- as people's deputies during the period of the session; and,
- released members of committees and commissions of the Republic of Kazakhstan Supreme Soviet or local Soviets with their subsequent assignment to the appropriate Soviets.

Provision of monetary, clothing and other types of appropriate allowances and also the award of the next military rank to servicemen who have been assigned to state government agencies with retention in military service are regulated by the laws that are in force.

Article 7. The Military Uniform and Insignia of Servicemen

1. Servicemen and also military reservists at assemblies wear the military uniform with insignia in accordance with their military ranks and combat arms (services).

The military uniform and insignia are established by the Republic of Kazakhstan Supreme Soviet and supply standards are determined by the Republic of Kazakhstan government. The regulations for their wear are established by the Republic of Kazakhstan minister of defense.

2. All other departments, public organizations and associations are prohibited from introducing uniforms and insignia that are similar to the uniforms and insignia of servicemen.

3. Wear of the military uniform by citizens who do not have the right to do so is prohibited and subject to prosecution by law.

Section II

Training of Citizens for Military Service

Article 8. Training of Preinductees and Conscripts for Military Service

1. Training of preinductees and conscripts for military service consists of:

- training conscripts in military-technical specialties;
- military training of higher educational institution students based upon the reserve officer program;
- moral-psychological training;
- physical training;
- treatment-health care work;

- increasing the level of general education training; and,
- patriotic education.

2. Training of preinductees and conscripts for military service is organized under the leadership of the government of the Republic of Kazakhstan and is conducted by Republic of Kazakhstan ministries and departments and by local government authorities.

Monitoring the organization, conduct and results of the training of preinductees for military service in the republic, programmed and methodical provision of preinductee training is carried out by the Republic of Kazakhstan Ministry of Defense.

Local government authorities, ministries, state committees, departments and associations of enterprises carry out material-technical support, the creation of training facilities, the selection and training of leaders, teachers, instructors and masters of production training and other specialists for the conduct of this training and are responsible for the fulfillment of the complex of measures for the training of preinductees for military service with which they are tasked by this Law.

Managers of enterprises, organizations, institutions and educational institutions, regardless of the type of ownership, are obliged to provide the opportunity for preinductees and conscripts to undergo training for military service.

3. Young people who have reached the age of 16 and who are fit for military service based upon their state of health are involved in training preinductees.

Article 9. Training of Preinductees and Conscripts in Military-Technical Specialties

1. Training in military-technical specialties is conducted at republic defense organization schools with a separation from production. Preinductees and conscripts who are fit for military service based upon their state of health and who are subject to conscription for military service after completion of training are called in for training.

2. The job and position occupied is preserved and the average salary based upon the primary job is paid to preinductees and to conscripts who are undergoing training for military service with a separation from production for the entire time of studies, including round trip travel time.

3. Attendance at classes by preinductees and by conscripts is mandatory.

Article 10. Military Training of Higher Educational Institution Students

1. Military training of higher educational institution students is conducted at military departments. Male students up to 27 years of age, and also female students

of higher educational institutions, who are fit for military service based upon their state of health and based upon a series of military registration specialties that are determined by the Republic of Kazakhstan Ministry of Defense are enrolled in military training.

2. The list of higher educational institutions at which military training of students is conducted and also the statute on the military department is approved by the Republic of Kazakhstan government.

Military training is one of the types of training and is included in the curricula of higher educational institutions as an independent educational discipline.

3. Students who have undergone a complete course of military training based upon the reserve officer program and who have passed the prescribed examinations are awarded the appropriate first military reserve officer rank.

Students who have not performed compulsory military service or training at a military department are drafted for compulsory military service after graduation from the higher educational institution.

Article 11. Physical Training. Treatment-Health Care Work. Patriotic Education

1. Physical training of preinductees and conscripts is organized based upon the physical training program of the state government education organs, physical training and sports by sports societies and clubs at defense-sports health camps, at enterprises, at institutions and organizations, regardless of their subordination or type of ownership.

2. Treatment-health care work with young people is organized at their place of residence, study, or work by public health organs and institutions at treatment, treatment-preventive care and treatment-health care institutions with the formation in them of adolescent care outpatient clinics, departments and offices.

Medical examinations of 17-year old youth is carried out annually by doctors-specialists who are called in to perform medical examinations of conscripts. If necessary, young people are sent for the required treatment with the conduct of health measures.

3. State and non-state educational institutions take the required steps to increase the level of patriotic education of youth.

Section III

Registration of Citizens With Conscription Registration Districts.

Conscription and Acceptance (Entry) into Military Service

Article 12. Registration of Citizens With Conscription Registration Districts

1. Registration of citizens with conscription registration districts is carried out to accept young people on the

military register, determine the number of them, the degree of fitness for military service, ascertain the general education level, the specialty obtained and the level of physical training.

Conscription registration districts are being formed in rayons (cities) to conduct the registration of citizens.

2. Citizens who have reached their 17th birthday during the registration year are summoned to the conscription registration districts during January-March. Registration is conducted by rayon (city) military commissariats based upon the place of residence.

Preinductees who have not been placed on the military register without valid reasons prior to 1 April of the year that they have reached their 17th birthday are considered to be evading placement on the military register and bear responsibility in accordance with the laws that are in force.

3. Local government authorities, housing organizations, enterprises, institutions and organizations, and home owners, regardless of subordination or the type of ownership, conduct initial registration of military reservists and conscripts annually within the time periods established by the Republic of Kazakhstan Ministry of Defense and submit lists of young people who are subject to conscription registration districts to the appropriate rayon (city) military commissariats.

4. Citizens are released from work (study) during the time required to fulfill duties associated with placement of preinductees on the military register with preservation for them of the salary (stipend) at their permanent place of work (study).

5. The appropriate boards are formed to conduct the registration of citizens with conscription registration districts in rayons (cities) and are composed of:

—the board chairman—the rayon (city) military commissar; and,

—board members—doctors and representatives of the military commissariat.

The personnel composition of the rayon (city) registration board and the procedures for conducting and supporting this work are annually approved by the local government authorities.

6. Citizens who have registered with conscription registration districts are accepted onto the military register.

Article 13. Conscription of Citizens for Compulsory Military Service

1. Conscription of citizens for compulsory military service is conducted based on the Republic of Kazakhstan Presidential Edict twice per year, in April-June and in

October-December. The Republic of Kazakhstan Presidential Edict is published in the press.

2. Managers of enterprises, institutions, organizations and educational institutions, regardless of subordination or type of ownership, are obliged to recall conscripts from temporary duty assignments (leaves, etc.) to ensure their timely arrival at the conscription registration district.

3. The following are recognized as valid reasons for a citizen's failure to appear at conscription registration districts during the time periods prescribed by military commissariats:

- an illness (trauma) associated with a disability;
- the death or serious illness of a close relative; or,
- a natural obstacle or other circumstances that have deprived a citizen of the opportunity to personally appear.

Reasons for failure to appear must be confirmed by the appropriate documents.

4. Conscription of Republic of Kazakhstan male citizens for compulsory military service who are temporarily residing abroad is carried out as prescribed by this Law upon their arrival at their permanent place of residence in the Republic of Kazakhstan in the absence of the right to a deferment.

Article 14. Draft Boards

1. Draft boards consisting of the following personnel are formed to conduct the conscription of citizens for compulsory military service in rayons (cities):

- the board chairman—the rayon (city) military commissar;
- board members:
- the deputy leader of the local government;
- a representative of the rayon (city) department of internal affairs;
- the doctor who directs the work of medical personnel for the medical examination of conscripts—the medical board chairman;
- the board secretary; and,
- representatives of collectives of enterprises and educational institutions.

The personnel composition of the rayon (city) draft board and the schedule for conducting conscription of citizens for performance of compulsory military service are approved by the leader of the local government.

2. Appropriate oblast draft boards consisting of the following personnel are created for management and control of the activities of rayon (city) draft boards in oblasts:

- the oblast military commissar;
- a representative of the administration (department) of internal affairs; and,
- the deputy chief of the public health administration (department).

3. The statute on draft boards is developed by the Republic of Kazakhstan Ministry of Defense and is approved by the government of the Republic of Kazakhstan.

Article 15. Deferment From Conscription

1. A deferment from conscription for compulsory military service is granted to citizens in accordance with a rayon (city) draft board decision:

- for family circumstances;
- for health reasons; or,
- as a result of deputy activity.

2. A deferment from conscription for a family situation is granted:

a) to conscripts involved with the care of family members who need continuous assistance, regardless of whether they live with the conscript or separately, if there are no other individuals who are obliged to be concerned about them in accordance with the laws that are in force and the conscript's family members themselves are not on full state maintenance.

When determining a conscript's right to a deferment for a family situation, the family members of a conscript who need continuous assistance and care are considered to be:

—a wife, father, mother, grandfather, or grandmother who are recognized as disabled by a medical commission for determination of disability (VTEK);—nonworking brothers and sisters up to 18 years of age or older than this age if they are Group I or II disabled;

—a mother, widow, or woman who is living alone, who is unmarried and who is raising two or more children under 18 years of age; and,

b) to conscripts who have as dependents:

- a child who is being raised without a mother;
- two or more children;

—individuals who are the conscript's dependents as a result of the death of his parents, their prolonged disease or for other valid reasons—for no less than five years under the conditions prescribed by this article.

A conscript has the right to refuse a deferment from the draft for a family situation and can be drafted for compulsory military service if he submits the appropriate notarized documents of interested individuals and organs of social protection of the population.

3. A deferment from the draft for health reasons is granted for a period of up to one year to conscripts who have been declared to be temporarily unfit for military service during a medical examination.

4. A deferment from the draft for the continuation of education is granted:

- to conscripts who are studying at institutions that have the legal status of educational institutions, including correspondence and evening types of study;
- until receipt of a middle or middle special education, but no older than 20 years old; or,
- to students of day (classroom) departments of higher educational institutions from 20-27 years of age if they have submitted the documents prescribed by the statute on higher school.

Conscripts who have been disenrolled from higher educational institutions for failure to progress, a lack of discipline or based upon their own desire do not have the right to a deferment from the draft to continue their education in the event of a return entry (restoration) to higher educational institutions.

5. A deferment from the draft as a result of deputy activity is granted to conscripts who are people's deputies according to their wishes for the term of their deputy responsibilities.

6. A deferment from the draft for compulsory military service is also granted to:

- teachers of rural schools who have a higher or middle special teachers education for the entire time of their work at these schools;
- to other categories of conscripts or personally to individual conscripts by a decision of the government of the Republic of Kazakhstan.

Conscripts who have lost the grounds for the utilization of a deferment and also individuals who do not have the right to a deferment or the grounds for exemption from the draft that are stipulated by Articles 16 and 17 of this Law and who have not been drafted for compulsory military service within the prescribed time periods must be drafted for it during the conduct of the next draft.

Article 16. Exemption From the Draft for Compulsory Military Service

1. The following conscripts are exempt from the draft for compulsory military service in peacetime:

- those who have been declared unfit for military service in peacetime for health reasons;

—those who have not been drafted on legal grounds for compulsory military service prior to their 27th birthday;

—those who are ordained and who have an approved position in one of the registered religious faiths; or,

—those who have natural brothers or sisters who died or who became disabled while performing military service.

Conscripts who have the right to an exemption from the draft on these grounds can also not use it.

2. The following citizens are not subject to the draft for compulsory military service in peacetime:

- with regard to whom an inquiry or preliminary investigation is being conducted or a criminal case is being reviewed by a court;
- those who have a conviction for commission of a serious crime; or,
- those who have two or more convictions.

Article 17. Call-Up of a Reserve Officer for Military Service

Reserve officers up to 29 years of age who do not have grounds for granting them a deferment from the draft can be called up in peacetime by a decree of the government of the Republic of Kazakhstan to perform military service in officer positions.

In individual cases, reserve officers who are over 29 years of age and who have high training in a military specialty can be called up into the armed forces.

The number of reserve officers with military registration specialties who are subject to call up for military service is determined by the government of the Republic of Kazakhstan.

Article 18. Acceptance for Military Service on Contract

The following individuals who meet military service requirements are accepted for military service on contract on a voluntary basis:

- in the positions of private, sergeant, or senior NCO [Noncommissioned Officer—compulsory service servicemen who have served no less than one year based upon conscription and military reservists (except for reserve officers and warrant officers) who are up to 35 years of age and also women from 19-35 years of age;
- for military service of cadets—citizens up to 21 years, including those who have reached their 17th birthdays in the year of matriculation for studies and also servicemen and military reservists who do not have the military ranks of officers who are up to 23 years of age and who have expressed the desire to study at military educational institutions;

—in army or naval warrant officer positions—soldiers, sailors, sergeants and petty officers who have performed no less than one year of military service (except reserve officers) who are under 35 years of age and women from 19-35 years of age;

—for military service of officers—reserve officers who have not reached the maximum age to be in military service.

Upon acceptance for military service, a contract is concluded between the state and the citizen.

Section IV

Performance of Military Service

Article 19. Terms of Military Service

The following terms of military service, calculated in calendar years, are established:

a) for compulsory service servicemen who:

—have a higher education—one year;

—do not have a higher education—one year and six months; and,

—are sailors and petty officers of naval ships and vessels and border troop naval units—two years;

b) for servicemen who are performing military service on contract:

—for soldiers, sailors and sergeants—two years;

—for female servicemen in the positions of soldiers, sailors and sergeants—two years;

—for army and naval warrant officers—two years with the right to subsequent extension of contracts for a term of no less than three years; and,

—for officers who have been called up from the reserve—three years with the right for subsequent extension of contracts for a term of no less than five years.

A contract can be extended for a term until the maximum military service age is reached.

Performance of military service on contract is calculated in the compulsory military service term.

Article 20. Maximum Ages for Military Service

1. The following maximum ages for military service are established:

a) for compulsory service servicemen—29 years of age;

b) for servicemen who are performing military service on contract in the positions of private, sergeant, or senior NCO—45 years of age;

c) for female servicemen in the positions of private and sergeant and also army and naval warrant officer positions—45 years of age;

d) for junior officers—45 years of age;

e) for senior officers in the military rank of major and lieutenant colonel—45 years of age, and colonel—50 years of age; and,

f) for flag officers in the rank of lieutenant-general, inclusively—55 years of age and, colonel-general—60 years of age.

2. The Republic of Kazakhstan minister of defense can extend the period of service for up to five years for officers—candidates of science (associate professors) and also for officers who have a high professional education, experience of practical work in the position occupied and who are fit based upon health for performance of military service and for up to 10 years for doctors of science (professor).

3. Servicemen who have reached the maximum age for military service are subject to release into the reserve as prescribed by the government of the Republic of Kazakhstan.

Article 21. Military Service of Cadets (Students) of Military Educational Institutions

1. Study at military educational institutions is calculated as compulsory military service for cadets.

2. A contract for performance of officer military service for 10 calendar years by cadets after completion of the military educational institution is concluded on an individual basis with cadets after completion of the first year but no earlier than their 16th birthday. The education of cadets who have not concluded or who have abrogated this contract is terminated.

3. Cadets who have been disenrolled from military educational institutions:

—are released into the reserve if they have served the prescribed terms of compulsory military service; or,

—are sent to military units for further performance of military service if they have not served the prescribed term of compulsory military service.

Article 22. Release From Military Service

1. Release from military service is conducted:

—for compulsory service servicemen who have served the prescribed terms; and,

—for servicemen who are performing service on contract—upon completion of the term prescribed by contract.

2. Compulsory service servicemen are released from service early:

—for health reasons—based on the conclusion (finding) of a military medical commission;

—for family circumstances—in the event they acquire the right to a deferment as a result of a change of family situation, the birth of a second child, illness or death of one of the parents or individuals if they are disabled or do not have other family members or relatives who are capable of supporting them and they are a dependent of the conscript; or,

—as a result of a conviction with incarceration.

3. Female servicemen who are performing military service in the positions of private, sergeant, senior NCO, army or naval warrant officer or officer can be released from military service:

a) upon completion of the term of service;

b) for age—in the event the maximum military service age is reached;

c) for health reasons—based upon the conclusion (finding) of a military medical board on unfitness or limited fitness for military service;

d) as a result of staff reductions or organizational measures in the event of the impossibility of utilization in the service;

e) as a result of the abrogation of the contract;

f) for family circumstances or for other important reasons, the list of which is defined by the government of the Republic of Kazakhstan;

g) based upon incompatibility with the service;

h) for committing acts that besmirch the honor of a serviceman;

i) as a result of a court conviction that has entered into legal force; or,

j) based upon personal desire—officers in the event they have no less than 10 calendar years of service in officer positions.

Section V

Service in the Reserve

Article 23. Enrollment In the Reserve. The Reserve Category

1. Citizens who have been released from military service (except those who have been released into retirement or as a result of a conviction by a court for commission of a crime), those who have been exempted from the draft for compulsory military service (other than those who have been excluded from the military register for health reasons) and also those who are not subject to the draft for compulsory military service in peacetime (Article 17) are enrolled in the reserve.

Article 24. Maximum Age in the Reserve. Reserve Ratings

1. The reserve of personnel with a military obligation is divided into three categories. The categories are established based on state in the reserve.

2. Individuals who are privates, sergeants, or senior NCOs, or army or naval warrant officers are in the reserve until the following maximum ages:

—first category—up to 35 years of age;

—second category—up to 45 years of age; and,

—third category—up to 50 years of age.

3. Officers are in the reserve until the following maximum ages:

a) in the first reserve category:

—junior officers—up to 45 years of age;

—senior officers—up to 50 years of age; and,

—flag officers—up to 55 years of age.

b) in the second reserve category:

—junior officers—up to 50 years of age;

—senior officers—up to 55 years of age; and,

—flag officers—up to 60 years of age.

c) in the third reserve category:

—junior officers—up to 55 years of age;

—senior officers—up to 60 years of age; and,

—flag officers—up to 65 years of age.

4. Female military reservists, regardless of the military ranks awarded to them, are enrolled in the third reserve category. The maximum age in the reserve is established: for officers—50 years; for privates, sergeants and senior NCO's and for army and naval warrant officers—45 years of age.

Article 25. Performance of Assemblies

1. While in the reserve, military reservists are called up for the following assemblies: training, muster and special.

2. Military reservists who do not have officer military ranks are called up by military commissariats for assemblies:

—first category—up to five times for a period of up to two months each;

—second category—up to three times for a period of up to two months each; and,

—third category—once for a period of up to one month.

Reserve officers during their stay in the reserve can be called up for training assemblies:

- first category—annually for a period of up to two months (while considering the shortage of a military registration specialty);
- second category—two times for a period of up to two months each time; and,
- third category—once for a period of one month.

3. The period and time for conducting training assemblies for military reservists is determined by the Republic of Kazakhstan minister of defense in accordance with this Law.

4. Military reservists during the period between training assemblies can be involved in musters and commanders training for a period of up to 10 days with a separation from production according to the Republic of Kazakhstan minister of defense plan.

5. The total term of assemblies during the time in the reserve cannot exceed 18 months for privates, sergeants and senior NCOs, army and naval warrant officers, and 24 months for officers. In the process, add the time of attendance at musters to the total term of attendance at training assemblies.

6. Military reservists can be called up according to Republic of Kazakhstan government decrees for special assemblies with a period of up to four months for participation in prevention of extraordinary situations or to eliminate their aftereffects and also in extreme cases for rendering assistance to the national economy.

Article 26. Exemption From Performance of Assemblies

The following personnel are exempt from performance of training assemblies:

- a) reservists who have been reserved for the national economy;
- b) engineering-technical workers, and workers and employees who work in the Republic of Kazakhstan Ministry of Defense, Ministry of Internal Affairs, and Committee for National Security systems;
- c) flying and technical personnel, workers and employees of the Kazakh Civil Aviation Administration who directly support transport movements and who are involved with the servicing and repair of aircraft and airfield equipment and also aviation training clubs;
- d) maritime and river ships and the fishing industry fleet during the period of navigation;
- e) individuals who work in agriculture and also those who are involved at enterprises for the repair of agricultural equipment—in the period of sowing and harvest work; shepherds and their assistants who work in animal husbandry;

f) the teaching staff of educational institutions and special educational institutions—during the school year;

g) students of higher and pupils of middle educational institutions who are studying through day and evening forms of study;

h) graduate students and doctoral candidates—for the period of study in the graduate or doctoral programs;

i) female military reservists;

j) military reservists for the two years after release into the reserve;

k) military reservists who have three or more children under 16 years of age;

l) individuals with regard to whom an inquiry or preliminary investigation is being conducted or a criminal case is being reviewed in a court; and,

m) military reservists as a result of deputy activity.

In individual cases, if there are valid reasons and the military reservist has submitted the appropriate documents, a decision on an exemption from performing training assemblies is made by the rayon (city) military commissar where they are on the military register.

The military reservists indicated in paragraphs a) and l) of this article are not exempt from performing special assemblies.

Section VI

Military Registration of Military Reservists and Conscripts

Article 27. General Regulations of Military Registration

All military reservists and conscripts are subject to military registration.

Military registration of military reservists and conscripts is a statewide system of accounting and analysis of conscription resources in the state that are fit for military service. Functioning of the military accounting system is supported by the government of the Republic of Kazakhstan, the Republic of Kazakhstan Ministry of Defense, the Republic of Kazakhstan Ministry of Internal Affairs, and by the local government authorities.

Article 28. Obligations of State Organs, Enterprises, Institutions and Organizations, Officials and Military Reservists for the Fulfillment of Military Registration Regulations

1. Local government authorities, where there are no military commissariats, managers of enterprises, institutions, organizations and educational institutions, regardless of subordination or type of ownership, are obliged based upon the request of the military commissariats to notify military reservists and conscripts about their summons to the military commissariats and to ensure their timely arrival based upon that summons.

2. Local government authorities and internal affairs organs within the limits of their jurisdiction, where there are no military commissariats, are obliged to:

—carry out the registration and release of military reservists and conscripts based on their place of residence only in cases when there are entries of military commissariats in their military registration documents on acceptance on the military register or removal from it;

—render assistance to military commissariats in acceptance of preinductees for military registration, conduct of the conscription of citizens for military service (assemblies); monitoring their fulfillment of the military registration regulations and detecting individuals among conscripts and military reservists who violate these regulations; and,

—conduct an investigation and detention of individuals who are evading fulfillment of universal military obligation, and conduct Payment of expenditures for the investigation and delivery of detainees at the expense of these individuals.

3. Civilian Register Offices are obliged within a seven day period to report to rayon (city) military commissariats on changes of military reservists and conscripts families, first names and family names, on changes made to the civilian register on the date and place of their birth, and also on cases of the registration of the death of a military reservist or conscript.

4. Inquiry and preliminary investigation organs are obliged within a seven day period to report to rayon (city) military commissariats on conscripts with regard to whom an inquiry or a preliminary investigation is being conducted and the courts—on conscripts whose criminal case is being reviewed by a court and also on sentences with regard to military reservists and conscripts that have entered into legal force.

5. Medical commissions for determination of disability are obliged within a seven day period to report to the appropriate rayon (city) military commissariats on all military reservists and conscripts who have been declared to be disabled.

Treatment institutions during the conduct of the draft are obliged to report within a three day period to the appropriate rayon (city) military commissariats on all draft age citizens who are undergoing inpatient treatment.

6. Managers of organizations, enterprises and institutions who carry out the operation of housing and also homeowners are obliged to submit, in a timely manner, required information on military reservists and conscripts to the appropriate military commissariats or to the local government authorities and, at locations where there are no military commissariats, to track the fulfillment by conscripts and military reservists of the military

registration regulations and also to inform them about a summons to the military commissariats.

7. Military reservists and conscripts, in the event of a change of their family situation, state of health, address, education, work location or position are obliged to personally notify, within a seven day period, the organ where they are on the military register about that.

Section VII

Call-Up for Military Service Based Upon Mobilization and Demobilization

Article 29. Call Up for Military Service for Mobilization and Subsequent Call Ups for Military Service in Wartime

1. Mobilization on the territory of the Republic of Kazakhstan is declared by the President of the Republic of Kazakhstan to prevent a military attack and armed rebuff of an aggressor. The President of the Republic of Kazakhstan introduces martial law on the entire territory of the Republic of Kazakhstan or in individual regions of it with the call up of the required number of military reservists from the reserve for military service as prescribed by law.

The call up of citizens for military service based upon mobilization and also conscriptions for military service during wartime and in special cases are conducted based on Republic of Kazakhstan Presidential edicts.

2. When mobilization is declared, all citizens who are in military service at that time or who are at military assemblies are detained at military units until a special directive and military reservists are called up for military service. Servicemen's leaves are terminated and servicemen who are on leave are recalled to their military units.

With the declaration of mobilization or a state of war, previously adopted decisions on granting deferments and exemptions from the draft are repealed. Further employment of deferments and exemptions from the draft that are prescribed by Articles 16 and 17 of this Law, other than deferments and exemptions for health reasons, are suspended.

3. In wartime, a Republic of Kazakhstan Presidential edict can increase the maximum age for service in the reserve.

4. To ensure stable operation of the national economy of the Republic of Kazakhstan during mobilization in wartime, reservation of required specialists for the national economy is conducted in peacetime. Reservation of persons with a military obligation is carried out by granting deferments from conscription for military service to them as determined by the board for issues of work force reservation for the national economy.

Military commissariats are tasked with monitoring the organization and appropriateness of reserving cadres for the national economy in wartime.

Citizens who have been drafted for military service based upon mobilization in wartime are obliged to appear at induction centers and in the time periods indicated in the mobilization orders or military commissariat notification.

Local government authorities and also the managers of enterprises, organizations, institutions and educational institutions, regardless of subordination or type of ownership, while conducting mobilization in wartime and in special cases are obliged to ensure the timely notification and delivery of military reservists and conscripts to induction centers or to military units.

5. A total accounting based upon the work (duty) location is conducted with military reservists and conscripts who have been called up for military service based upon mobilization in wartime, wages, prescribed exit bonuses and compensation for unused leave are paid for time actually worked. The housing occupied by citizens drafted based upon mobilization and in wartime is kept for them.

State assistance (bonuses, pensions) of families of citizens who have been called up for military service based upon mobilization and in wartime is conducted based upon the laws that are in force.

Article 30. Liability for Violation of Call Up Regulations for Mobilization and in Wartime

1. Citizens who have not appeared for the draft based upon mobilization and in wartime to the induction centers or time periods that were indicated to them without valid reasons are held criminally liable in accordance with wartime laws.

2. Officials and citizens who impede the timely appearance of citizens who have been called up based upon mobilization and in wartime are held criminally liable in accordance with wartime laws.

Article 31. Release for Demobilization

1. Release as a result of demobilization is conducted based upon a Republic of Kazakhstan Presidential edict.

2. Servicemen who have been released from military service based upon demobilization are provided with a complete set of clothing at state expense. Transportation of these servicemen to their place of residence and provision of food to them en route is carried out at state expense.

Article 32. Universal Military Training of Citizens

1. Mandatory universal military training is being introduced for all citizens based upon a Republic of Kazakhstan government decision to teach the population civil defense measures and to train the required contingent for manning the Republic of Kazakhstan Armed Forces in wartime: men—from 16-55 years of age and women who do not have children or who have children over 10 years of age—from 18-45 years of age.

Universal military training of citizens is carried out at the place of work, study or residence without separation from production or studies.

2. The Republic of Kazakhstan Ministry of Defense and local government authorities are tasked with the organization and management of universal military training. Government authorities, ministries and departments, enterprises, organizations and institutions, regardless of subordination or type of ownership, create, jointly with the Republic of Kazakhstan Ministry of Defense, the required educational facilities and ensure the selection and training of military training leaders.

3. The procedures for conducting universal training and the circle of individuals who are exempt from it is determined by the government of the Republic of Kazakhstan.

Section VIII

Responsibilities of Citizens and Officials for Violation of Republic of Kazakhstan Legislation on Universal Military Obligation and Military Service

Article 33. Liability of Citizens and Officials for Violation of the Law on Universal Military Obligation

1. Citizens who have not appeared within the indicated time period without a valid reason based upon a military commissariat summons are considered to be evading the performance of their military obligation and are subject to administrative liability in accordance with Republic of Kazakhstan law.

2. Citizens bear administrative liability for the violation of military registration regulations without valid reasons in accordance with Republic of Kazakhstan law.

3. Military reservists for evasion of assemblies and also for commission of violations of the law against the established procedures for performing military service during the performance of assemblies that have been committed by them are held liable in accordance with Republic of Kazakhstan law.

4. Officials of local governments, enterprises and organizations, institutions and educational institutions, regardless of type of ownership or subordination, bear administrative and criminal liability for nonobservance of the requirements prescribed by this Law in accordance with Republic of Kazakhstan law.

Article 34. Liability of Servicemen for the Violation of Military Service Regulations and for Commission of Violations of the Law

Servicemen bear disciplinary, material, administrative and criminal liability for violation of military discipline and commission of violations of the law in accordance with Republic of Kazakhstan law.

Section IX

Concluding Provisions

Article 35. Financial and Material Support of Measures Associated with Fulfillment of the Law of the Republic of Kazakhstan "On Universal Military Obligation and Military Service"

1. Local government authorities are obliged to provide military commissariats with equipped induction centers, medicines, instruments, medical and office equipment, motor vehicle transportation, communications assets, and protection of public order and allocate the required number of medical and technical workers and also servicing personnel for the conduct of medical examinations of citizens during registration and conscription for military service and assignment of conscripts to military units.

2. Local government authorities and, based upon their decision, departments, enterprises, institutions and organizations, and educational institutions, regardless of their subordination or type of property, in peacetime with military commissariats, create districts for notification and assembly of military reservists and also vehicle assembly centers, man them with personnel without exempting them from carrying out their job obligations to carry out the plans to conduct mobilization under wartime conditions and render assistance in the acquisition of professional skills by them.

3. Jobs, occupied positions, and average salaries are preserved for members of boards for the registration of preinductees with conscription registration districts, draft boards, medical and technical workers and also servicing personnel allocated for work at conscription registration districts and induction centers during the entire time they are carrying out these duties.

If the performance of their duties by these individuals is associated with their departure from their permanent

place of residence, military commissariats reimburse them for expenses for round trip travel from their place of residence to their work place, for leasing housing and they pay them per diem rates based upon the norms prescribed for official trips.

4. Financial and material support of measures associated with the performance of the universal military obligation and performance of military service is carried out at the expense of the Republic of Kazakhstan Ministry of Defense.

[Signed] N. Nazarbayev
President of the Republic of Kazakhstan
Almaty
19 January 1993

Republic of Kazakhstan Supreme Soviet Decree "On the Procedures for Enactment of the Republic of Kazakhstan Law 'On Universal Military Obligation and Military Service'"

The Republic of Kazakhstan Supreme Soviet decrees:

1. To enact the Republic of Kazakhstan Law "On Universal Military Obligation and Military Service" on 1 January 1993.

2. The Republic of Kazakhstan Cabinet of Ministers:

will adopt the required normative acts on the procedures for implementing the Republic of Kazakhstan Law "On Universal Military Obligation and Military Service"; and,

bring normative acts on issues of performance of military service into compliance with the law.

[Signed] S. Abdildin
Republic of Kazakhstan Supreme Soviet Chairman
Almaty
19 January 1993

DOCTRINAL ISSUES

Kokoshin Interviewed on Military Doctrine

93UM0612A Moscow NEZAVISIMAYA GAZETA
in Russian 3 Jun 93 pp 1, 5

[Interview with Andrey Afanasyevich Kokoshin, Russian Federation first deputy minister of defense, corresponding member, Russian Academy of Sciences, by Mikhail Karpov, NEZAVISIMAYA GAZETA, occasion, date and place not specified, under English rubric "Exclusive": "Russian Military Doctrine: Russian Federation First Deputy Minister of Defense Andrey Kokoshin Reflects on It"; photo of Kokoshin included]

[Text] *Andrey Afanasyevich Kokoshin (born 1945) has held the post of Russian Federation first deputy minister of defense as a civilian for over a year now, but he grew up in a hereditary military family. He finished Moscow Higher Technical School imeni Bauman, having become an electronics specialist. Before entering that school he worked as a lathe operator in Yakovlev's aircraft design bureau. He is a corresponding member of the Russian Academy of Sciences. He has engaged in research at the junctions of problems of military strategy and foreign policy, and of industrial and military-technical policy. He is an author, including of works widely known among specialists in our country and abroad such as "Yadernoye oruzhiye i strategicheskaya stabilnost" [Nuclear Weapons and Strategic Stability], "Kurskaya bitva v svete sovremennoy oboronitel'noy doktriny" [The Battle of Kursk in Light of Contemporary Defensive Doctrine], "Kosmicheskoye oruzhiye: dilemma bezopasnosti" [Space Weapons: Security Dilemmas] and others.*

[NG] Lately various writings again are raising the question of whether or not Russia has a military doctrine. What can you say about this?

[Kokoshin] Above all I would like to note that we have a certain Russian syndrome—belief in an all-encompassing document which will immediately provide an answer to all problems tormenting us. If we take a more objective approach to the concept of "military doctrine," then we must bear in mind that the USSR had developed a military doctrine theory, but there was no such all-encompassing document, even in the most supersecret version. Neither the Soviet Union's military doctrine nor the Russian Empire's military doctrine ever was adopted in the form of a special document. According to the authoritative testimony of an eyewitness, on the eve of World War I Emperor Nikolay II simply declared to General Yanushkevich once that military doctrine consists of "executing everything I order."

Only the "Warsaw Pact Military Doctrine" adopted in 1987 existed as an official document. It was primarily political in nature, although it did have a certain military-strategic meaning. But repeated attempts were made to develop a "unified military doctrine" of our state. This concept was interpreted differently at various

times. A relatively narrow, purely military interpretation of the concept of "military doctrine" predominated before the Revolution. There also were attempts at a broader interpretation, which showed up in the most vivid form after the Revolution and Civil War. I would like to single out here primarily the definitions proposed by Mikhail Vasilyevich Frunze in 1922. The understanding of the structure of a military doctrine's content which Frunze proposed became the basis of an entire teaching on it which lives in our minds even to this day. He singled out the political and military-technical (or military) aspects of military doctrine in particular.

Frunze's proposals just were not accepted, and after his death the term "military doctrine" was not mentioned in Soviet literature right up until the beginning of the 1960's.

At the same time, there always has been a de facto military doctrine in practically any state. It basically represented the aggregate of government and military department documents, which also had a certain material embodiment. This was the armed forces mobilization plan in case of war, the mobilization plan for industry, plans for strategic concentration and deployment, operations plans for the initial stage of war and so on. To what extent these plans are tied in with each other by a common thought, to what extent they correspond to genuine interests of the state and its capabilities, and to what degree they are based on correct foresight of the military-political and military-strategic situation is another matter.

Any state also has what we call the political part of military doctrine, which expresses in concentrated form the attitude of its leaders toward political goals of using the armed forces, and so on.

Since Stalin's times the unclassified version of the political aspect of military doctrine in the USSR was formed in speeches by the CPSU CC General Secretary at party plenums or congresses, or even in individual speeches. In many instances one had to be able to read between the lines or be initiated in the holy of holies in order to understand what actually stood behind the public declarations.

But now the question of the need to develop and adopt a military doctrine is fixed in the "Law on Defense" adopted in October 1992. The Ministry of Defense and General Staff already have made no small contribution to its development.

[NG] At just what stage is the development of a Russian military doctrine today?

[Kokoshin] A great deal already has been done. I could add the following to what Minister of Defense General of the Army Pavel Grachev recently said apropos of this. The Ministry of Defense and General Staff have performed very laborious work to define the Armed Forces structure and makeup under the new conditions. New operations plans have been developed and approved in

accordance with Russian Federation laws. The Ministry of Defense submitted new basic data to the government at the beginning of this year for a revision of the entire mobilization plan for industry, which is just as necessary as it is laborious. Evidently an integral military-technical policy has been formulated for the first time in our Armed Forces, represented in the form of a corresponding document. In late December of last year the Ministry of Defense approved the principles of a weapons program up to 2000-2005. A plan for transition to an army of the numerical strength specified by the "Law on Defense"—1.5 million persons—is in effect. This transition is not being made mechanically, but with significant structural changes demanding an enormous amount of laborious work by the General Staff, main commissariats of branches of the armed forces, and Ministry of Defense Cadres Service, Rear Service, and Construction and Billeting Service. So the military department to a significant extent did its part of the work of developing a military doctrine. But I would like to note once again that, as we understand it, a military doctrine is not just plans and aims for the military department; it is principles and a program of activity of the entire state in the defense sphere.

Painstaking daily work also is going on to implement these plans. We are encountering very acute problems here which often go far beyond the military department. This relates first and foremost to the strength level of troops. Recent decisions of the Supreme Soviet to suspend the effect of a number of articles of the Law "On Military Obligation and Military Service" somewhat improved possibilities for this, but in our view they are inadequate to the acuteness and depth of this problem.

[NG] Just what does the political side of Russian military doctrine consist of?

[Kokoshin] The line of the Russian state leadership that under present conditions our state has no probable enemies and that Russia regards the overwhelming majority of states as real and potential partners is one of the basic provisions of the political component of military doctrine.

All efforts to ensure Russia's security from a military standpoint should be focussed in the final account on facilitating stability of Russia's development as a democratic and economically prospering state.

[NG] What prospects await the combination of Russia's own efforts to ensure military security and collective efforts, above all of the nearby foreign countries?

[Kokoshin] In my view, the requirements for ensuring security in its broad interpretation are a powerful incentive for reintegrating states of the former Soviet Union around the Russian Federation, at first possibly on a confederated basis and then also on a federal basis.

The period which followed the Soviet Union's disintegration showed more acutely than ever before not only the economic interdependence of all former Soviet

republics, but also the significant spiritual and cultural commonality of our country's people which formed over centuries, including through conflicts and mutual grievances, but also through common tragedies.

[NG] Before your arrival in the military department, a group of heads of the defense industry, retired generals and admirals developed the document "Principles of Russian Federation Military Policy and Military Doctrine" under your direction in late 1991 and early 1992. Now, after a year in the post of first deputy minister of defense, do you believe this work is of practical value?

[Kokoshin] Without exaggerating the importance of the work done, I would assess it as being very much of some use. Possibly its basic meaning was that creators of weapons, leading systems experts, General Staff specialists experienced in strategy and operational art, and military and civilian historians worked together on this document. Our development significantly differed by the collaboration of authors and the corresponding pragmatic, professional spirit from what was being brought into the world in that same period of time by a number of other groups; by the way, my participation in a number of them was groundlessly attributed. In particular, we developed in rather great detail not only military-strategic aspects of preventing war, but also the typology of potential wars and armed conflicts, and we evaluated the degree of their probability and the entire possible spectrum of military-political challenges to Russia's national security. A number of practical conclusions for weapon programs were drawn from this regarding proportions among different weapon systems and subsystems. In particular, we emphasized the need for comprehensive development of reconnaissance, target designation, communications, and battle management systems. We especially noted the need to develop rapid reaction forces and rapid deployment forces appropriately outfitted and stationed and capable of operating in any direction. An analysis of the development of the Soviet Union's Armed Forces showed that for decades it was directed chiefly at being ready for the least likely type of war, a third world war with massive use of nuclear weapons. We were considerably worse prepared for the local, relatively small-scale wars which were more probable. With all their might and with the enormous achievements of the defense industry and science, there were many imbalances in the USSR Armed Forces diminishing combat and political effectiveness which we uncovered in this research.

[NG] But still, what is the essence of the use of military force under present conditions?

[Kokoshin] Any number of major interstate armed conflicts and wars arise under conditions of the continuing state of nuclear stalemate and to one extent or another are under the influence of the nuclear factor. Although the nature of this factor's effect on international relations and on the nature of military conflicts changed considerably after the conclusion of the cold war, the constant threat of a "big" conventional war developing

into a nuclear war largely determines both the scale of those political goals accomplished in the course of an armed conflict as well as methods of using military force. To a certain extent it is possible to say that military affairs made a transition primarily from crushing blows of a war club or splitting blows of a two-handled sword to rapier pricks with actions of a selective nature. If directed by a skilled, trained hand, these actions can knock out the enemy with no lesser effect. The endeavor to possess precision weapons largely is dictated today by requirements of a new type of war with relatively limited, strictly adjusted goals and with a corresponding new understanding of the term "victory." The presence of such weapons in sufficient numbers also determines the potential for deterring aggression.

By the way, preventing war and disrupting the plan of a potential aggressor also is a "victory," and as a rule its best version.

But also do not forget that precision weapons are very costly and require lengthy, well thought-out training not just of operators, but careful development of the infrastructure ensuring their practicably effective use. On the whole, they should not be made a fetish. And do not forget about development of more traditional and not so expensive kinds of weapons, which by the way played an enormous role in that same Operation Desert Storm.

[NG] It follows from your reasoning that you regard the concept of "victory" with some kind of special attention...

[Kokoshin] Absolutely. It also can be spoken of as a particular conflict result desirable from a political and military standpoint. The concept of "victory" generally often was very poorly studied both at the military-political and military-strategic levels, although such prominent military thinkers as Sun Tzu, von Clausewitz and Svechin repeatedly gave attention specifically to it.

The essence of ensuring victory lies above all in the effect on the psychology—individual, collective, mass—of the opposing side. In the sixth century before Christ, Sun Tzu wrote that to ensure military victory it is necessary "to sow discord in the enemy camp, disrupting everything that is regulated, throwing into confusion everything that is organized..." To achieve real victory it is necessary to have good knowledge not only of the opposing side's armed forces, but also of its state and political system, the decisionmaking mechanisms actually functioning, features of thinking and reactions of state and military leaders, and much more. If it is a coalition war, then it is necessary to regard one's allies soberly and understand profoundly the correlation of general and particular interests of coalition members. Here one should realize that as a rule, as Svechin taught, the aggregate combat force of a coalition always is less than the arithmetic sum of capabilities of the countries in it. Formation of a military coalition usually again is intended first and foremost for accomplishing political tasks.

Now, after the era dominated by the idea of a strategy of totally crushing the enemy primarily in the physical sense, we must constantly bear in mind that any armed conflict is to an enormously greater degree than before a very delicate combination not only of purely military measures, but also political and propaganda measures.

Herein, by the way, lies one of the main lessons of Operation Desert Storm, to which, unfortunately, few paid attention. The majority of observers were under the impression of the use of precision weapons shown on television screens, and many formed the impression that the entire war reduced to use of precision weapons. But as a matter of fact, this operation was a complex combination of a large number of multiple-move combinations in the political-diplomatic sphere and of combat operations proper. Each strike, each military action was carefully supported both politically and propagandistically, and the psychological effect of the strikes on the Iraqi Army, on the country's population, on its leaders, and on the international community was calculated.

[NG] But what follows from this for the Russian Armed Forces?

[Kokoshin] As applied to Russian military doctrine and its military and technical components, we must plan to outfit our Armed Forces with those weapons that have a considerable capability for psychological effect. Precision weapons for various purposes and with different scope are one of the main priorities of Russian Armed Forces military-technical policy. And we have rather good achievements here.

Under conditions where we have the task of preparing to repel aggression as a complex political-military phenomenon, we should consider the question of preparing the state for war in a deeper and more multidimensional way. We must form citizens' attitudes largely in a new way toward the Army, toward use of military force, and toward the population's readiness to support actions of military force to protect vitally important interests of Russia and its allies, and we must form their legitimacy in the people's eyes.

At the present time the legal framework of employing armed forces is defined first and foremost by the Russian "Law on Defense." The presence of such a legal base is an important element of armed forces activity in a democratic state.

[NG] In your opinion, what is the significance to our country of the experience of the war in Afghanistan?

[Kokoshin] Its significance is exceptionally great for us. Also of importance is that now there are many Afghan vets in the Armed Forces leadership, beginning with Minister of Defense General of the Army Grachev, who really know what war—a difficult, protracted war closely intertwined with politics—is. The presence of such practical experience helps develop a sober approach in the Ministry of Defense, on the General Staff and in the

Armed Forces as a whole to different forms of using military force in conflict and crisis situations.

In my view, this was one of the most important factors ensuring success of the activity of Russian peacemaking forces in Moldova and South Osetia. And this is not just our assessment, but also that of many authoritative foreign professionals.

[NG] What can you say about priorities in developing weapons and military equipment in accordance with Russian military doctrine?

[Kokoshin] We presently have, for example, a clear idea about what kind of strategic nuclear forces we need and what kind we can have right up to approximately 2010. We now are placing considerable emphasis on developing battle management and missile attack warning equipment and on space monitoring equipment. Its optimum development increases the real effectiveness of nuclear deterrence.

In our long-range weapons program we also are paying increased attention to developing precision weapon systems of various scope called upon to be both a means of deterring aggression and inflicting damage on an enemy in continental and maritime theaters.

We singled out questions of equipping the fighting man and increasing his protection and effectiveness on the battlefield as a special priority program. We are demanding that increased equipment quality and ergonomics be put into the tactical and technical specifications of new and modernized equipment, to which traditionally we paid clearly insufficient attention.

The problem of communications at the tactical level also demands special attention and concentrated efforts. Data processing and display systems and a large number of other directions need considerable qualitative improvement.

[NG] Now, if you do not object, let us talk about problems of military industry and the defense order. From conversations we know that one factor not allowing heads of defense enterprises to get right down to reorganizing production is the absence of clarity regarding the outlook for the defense order. How do you evaluate this situation?

[Kokoshin] On the whole the situation of the defense complex continues to remain very difficult. We gave such an outlook up through 1995 to all our head enterprises filling the defense order back last fall based on those economic reference points which we received from the government, but of course, this is not enough. The main trouble is that our state mechanism for financing the defense order has been extremely disturbed, even after budget approval. Already now it is clear that such a full-fledged program demands an increase in appropriations (strictly regulated, of course) for weapons and military equipment, and especially for RDT&E. The Ministry of Defense is completing work on a detailed,

long-range weapons program up to 2000-2005 which envisages an appropriate request to the government and the Supreme Soviet.

Enormous efforts are going into preserving everything we have in the defense industry and science that is most valuable both for military as well as civilian production in order to optimize use of those very limited funds we are now receiving for the defense order.

We are placing the defense order in a lesser number of design bureaus and a lesser number of enterprises to increase its profitability. For example, we are forced to concentrate construction of the entire nuclear powered submarine fleet at one yard, Sevmashpredpriyatiye [Severodvinsk Machine-Building Enterprise]. We also are giving the entire order for 152-mm self-propelled artillery to one plant, Uraltransmash, which has a strong design bureau capable of ensuring prospects for developing that kind of equipment.

[NG] What socioeconomic problems of the defense industry do you see as most important as of today?

[Kokoshin] There are many problems, but I would single out from among them first of all, as a minimum, assurance of equal working conditions for workers engaged in filling the defense order compared with those producing civilian (not state-budget) products at the very same enterprises. It would be important in particular to increase the amount of minimum untaxed wages for people fulfilling the state order from four to eight with compensation to appropriate defense budget items. It is also necessary to raise profitability of the defense order, which has a fixed value.

There is a very acute problem of preserving complex cooperation in producing weapon systems.

If it is not resolved, then we can lose the unique capability, a national property, of producing supersophisticated systems. This can be done in 5-6 world countries, and today this is one of the cornerstones of the might of a country both in its military as well as in its industrial and economic dimension.

[NG] Our economy always was under pressure of the military-industrial complex. Won't the Russian Federation Ministry of Defense now begin to define the country's entire economic policy?

[Kokoshin] Of course not. We do not pretend to this, and are in no condition to do this. The volume of our defense order has been greatly reduced. This was a drop of 65-68 percent compared with 1991, and so the physical volume itself of defense products and of defense production dropped so sharply that there can be no question of this at all. Our industry shifted to a completely new state, and this was done in the Russian way—at a single stroke! While previously we had a clear excess of military production and the military-industrial complex consumed excessively many resources—intellectual, material and financial—now everything has gone straight in

the opposite direction. For example, one of my main tasks is to arrive at the optimum which meets first and foremost the common interests and needs of civilian society and the democratic state and the real needs of the Armed Forces. But how to find this optimum? This is a very difficult task which we are working on day and night. And the Armed Forces must be very attentive to the interests of industry. If we do not do this, we will lose defense production. And we are ordering weapons based not only on our own needs, but also with consideration of the interests of industry, but not how it was before, when often what was imposed on the Armed Forces was not a priority need for them and was not fully ready.

In the past we often would receive unfinished systems which were accepted into the inventory under pressure of industry and of state and party structures. This was especially typical of the Navy, where ships were delivered that were not in a combat-ready condition and hundreds and thousands of yard workers, engineers and scientists would complete them for another 2-3 years after "delivery," although officially they already had been placed in operational service and crews were aboard them.

MILITARY CONFLICT, FOREIGN MILITARY AFFAIRS

Completion of U.S. B-2A Flight Testing Noted

93UM0579A Moscow VESTNIK
PROTIVOVOZDUSHNOY OBORONY in Russian
No 2, 93 p C4

[Unattributed article: "The B-2A Strategic Bomber"]

[Text] The U.S. is concluding flight tests on the new B-2A strategic bomber. Financing of developmental work began in 1981. The first flight of an experimental aircraft was in July 1989, and that of the fourth experimental aircraft in April 1992. By mid-May 1992 all four aircraft had flown a total of around 500 hours. The flight testing program should be concluded in 1996.

According to the foreign press, the B-2A is intended to break through enemy air space with nuclear weapons at high, medium and low altitudes and at intercontinental flight ranges. An additional mission is the delivery of strikes on ground targets with conventional weapons.

The bomber was developed in a "flying wing" design. Parts of the structure are made almost completely of composite materials. The plane may be operated from any airfields authorized for use by the Boeing-727 civilian aircraft, which has a maximal takeoff mass of around 94 tons.

The basic performance characteristics: crew of two; length 21 meters; wingspan 52.42 m; maximal cruising speed at high altitude 1,047 km/h; maximal flight range: without inflight refueling, 12,230 km, with one refueling, 18,530 km; maximal takeoff mass 167,830 kg; mass of

empty aircraft 72,575 kg; mass of fuel in internal tanks 72,575 kg; maximal mass of payload 22,680 kg. The power plant consists of 4 turbojet bypass engines with a thrust of 8,165 kg each (without afterburner).

The entire combat load is carried on 80 internal hard points. In the nuclear variant the normal combat load is 8 air-to-ground SRAAM guided missiles and 8 B63 or B61 bombs. The conventional armament includes: gravity bombs of 227, 340, or 680 kg; TSSAM AGM-137 cruise missiles (16 with a range of around 600 km) and guided aerial bombs with cluster warheads; naval mines.

The foreign press reports that the onboard radar will have a range of about 32 km and will be able to detect fixed and moving ground targets.

It is expected that an air wing of the bombers will be formed at Whiteman AFB in Missouri. Adoption of the aircraft in the armament is expected in 1993. The cost of a single B-2A jumped from 430 million dollars in 1987 to 2.3 billion dollars in January 1992. The American Congress has cut the number of aircraft planned for production from 132 to 20.

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SECURITY SERVICES

Details on 29, 30 May Attacks on Russian Border Guards in Tajikistan

93UM0588A Moscow KRASNAYA ZVEZDA in Russian
1 Jun 93 p 1

[Article by KRASNAYA ZVEZDA Correspondent Boris Soldatenko, under the rubric: "Tajikistan: A Rebuff Was Given to the Provocateurs on the Border": "11th Border Guards Subunit Is Under Attack"]

[Text] On 29 May at 18:37 hours, a large group of Afghan Mujaheddin and Islamic Party of Revival guerrillas made a daring attack from Afghanistan against Moscow Border Detachment's 11th Border Guards Subunit near the village of Bar of Sarichashminskiy Rayon in Khatlonskiy Oblast. The total number of attackers—was approximately 300 men. The border violators were operating in 9-10 groups. For four hours, the border subunit was subjected to intense shelling from the territory of Afghanistan from various firing positions, including 120-millimeter mortars and recoilless rifles.

The barbaric activities of the Mujaheddin and the local Islamic guerrillas resulted in the deaths of three Russian Border Troops servicemen. On the night of 30 May, the subunit was once again twice subjected to shelling. Four men, including an officer, received wounds of varying severity. The shelling was conducted from the Afghan village of Anzhiz and from the commanding heights on Tajik territory where the border violators had managed to penetrate.

The 11th Border Guards Subunit fought stoically and courageously. Personnel had to operate for several hours while surrounded. The Afghan Mujaheddin and the Islamic guerrillas destroyed and set fire to the officers' house, destroyed all of the vehicles that belonged to the subunit with aimed fire, and shells ended up in the office and sleeping quarters. Three unexploded 120-mm caliber mortar rounds still remain on the subunit's territory and a projectile from a recoilless rifle remains in the barracks wall.

It wasn't easy to render effective assistance to the 11th Border Guards Subunit: several sectors of terrain surrounding the subunit turned out to be flooded due to torrential rains in this area. Nevertheless, combat crews from a neighboring subunit and also a support group from the Russian 201st Motorized Rifle Division came to the aid of the surrounded border guards at 20:00 hours on 29 May. The detected firing positions on Tajik and Afghan territory that had fired at the subunit were suppressed by fire from tanks, BMP's [Armored Personnel Vehicles], and Grad rocket launchers.

It was calm around the subunit during the day on 30 May but, on the morning of 31 May, a sniper from the Afghan village once again fired at the subunit. So far there hasn't been an opportunity to evacuate the dead and wounded because the enemy is not giving us the opportunity to use a helicopter to do that. One helicopter that was attempting to reach the subunit was fired at and, having

been hit by four rounds, turned back. It has not been excluded that several groups of Afghan Mujaheddin and Islamic guerrillas continue to remain in glens and mountain ravines.

The Republic of Tajikistan Ministry of Foreign Affairs handed a note of protest to the Islam Republic of Afghanistan Counsel General to Dushanbe with regard to the serious armed provocation on the Tajik-Afghan border. The attempts undertaken by the command authorities of the Russian border troops group in Tajikistan to meet with an Afghanistan border representative have been unsuccessful.

INCIDENTALLY. As a result of the events on the Tajik-Afghan border, the Russian MID [Ministry of Foreign Affairs] adopted the following statement:

"There have been killed and wounded as a result of the attack by bandit formations from Afghan territory against Russian servicemen who are guarding the Tajik-Afghan border in accordance with treaties within the framework of the CIS and Russia with Tajikistan. The Russian Federation MID persistently appeals to the leadership of the Islamic Republic of Afghanistan to take all possible measures to stop such actions. For its part, the Russian border guards will act very decisively, while utilizing the entire arsenal of combat weapons that they have at their disposal to guard the border."

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